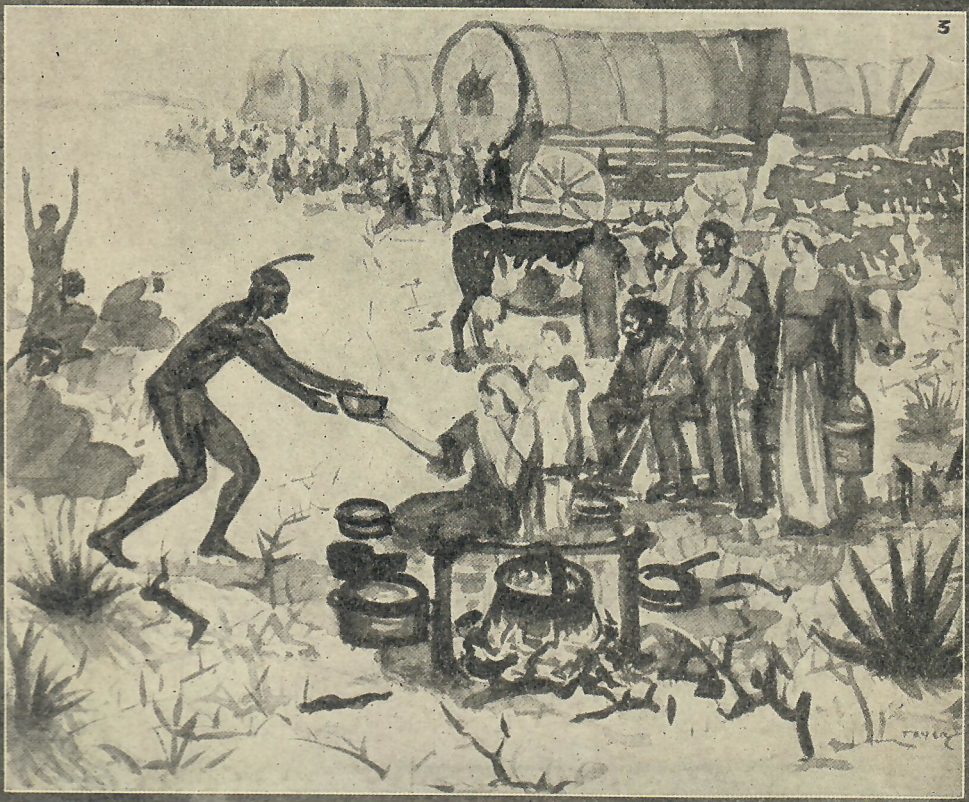
OXCART TO AIRPLANE


1.
TAYLOR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TAYLOR

OXCART *to* AIRPLANE

By Rockwell Dennis Hunt

Author of "*Genesis of California's First Constitution*"; "*History of California, American Period*," etc.,

and

William Sheffield Ament

Professor of English, Scripps College

of the series

CALIFORNIA

Edited by
John Russell McCarthy

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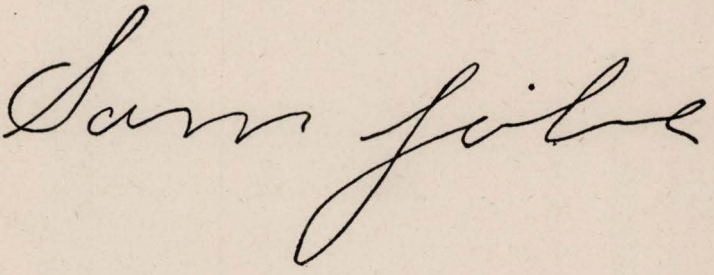
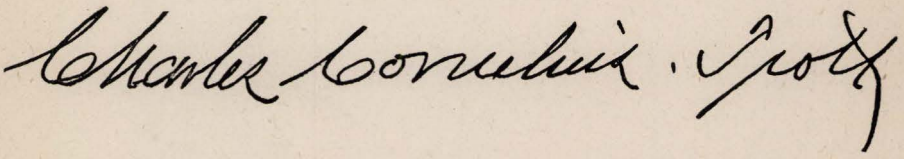
PIONEERS OF THE ROAD

Sam Jobe, stage-driver from Horse Shoe Bend to North Platte and Denver in 1862, has vivid memories of the days before the iron horse displaced the steed of flesh and blood in transcontinental travel. One incident in Jobe's colorful career was an attack of forty Indians upon five stages, one driven by Jobe. When the smoke cleared away it was found that thirty-five of the Indians had been killed. Jobe himself killed the old chief in this attack. One stage-driver, Lem Flowers, was shot seven times, but recovered. This little incident occurred in Wyoming, in 1863. Mr. Jobe, born February 22, 1841, in Andrews County, Missouri, now lives near Maricopa. He came to California in 1884.

Charles C. Trott, native son of California, holder of the world's record for continuous service as a locomotive engineer, was working on railroad engines when the golden spike, connecting East with West, was driven in 1869. He saw the first engine unboxed at Truckee, on its arrival from San Francisco. He has traveled 3,800,000 miles, or the equivalent of 152 times around the earth. At the time of his retirement he had spent fifty years in an engine cab, and fifty-six years, two months, in the employ of the Southern Pacific Railroad Company. Mr Trott was born in Volcano, California, December 16, 1855.

[Signatures in facsimile]



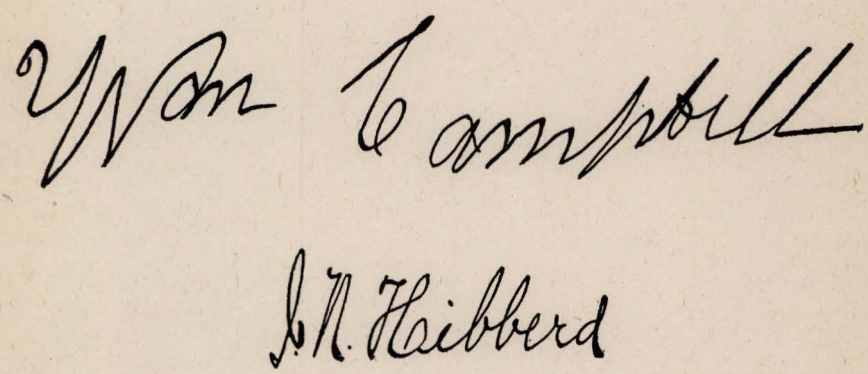


IN DAYS OF HOOFS AND SAILS

Here is the signature of a Pony Express rider who carried to California President Lincoln's first message to Congress. Actively associated with several great enterprises of the early days, William Campbell is a genuine link between the West of our wild yesterdays and the West of today. He was born in County Down, Ireland, April 16, 1841. As a Pony Express rider he was associated on the same run with Buffalo Bill and Wild Bill, and knew them well. Later he helped to build the Union Pacific Railroad.

Most graceful and beautiful of all ships that have sailed the seven seas were the clipper ships—man's crowning achievement in sailing craft. In a famous clipper, the three skysail yard ship CYRUS WAKEFIELD, I. N. Hibberd, Master, sailing out of San Francisco on June 2, 1887, with a cargo of wheat for Liverpool, made a round trip record for all time, eight months and two days, twenty-one days of which had been spent in port. This round trip record was fourteen days faster than the same voyage has ever been made by any other sailing vessel. Captain Hibberd, whose signature the publishers are proud to present below, retired from the sea in 1891, having made thirteen passages around Cape Horn.

[Signatures in facsimile]



Oxcart to Airplane

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By Franz Geritz

Oxcart to Airplane

PART I

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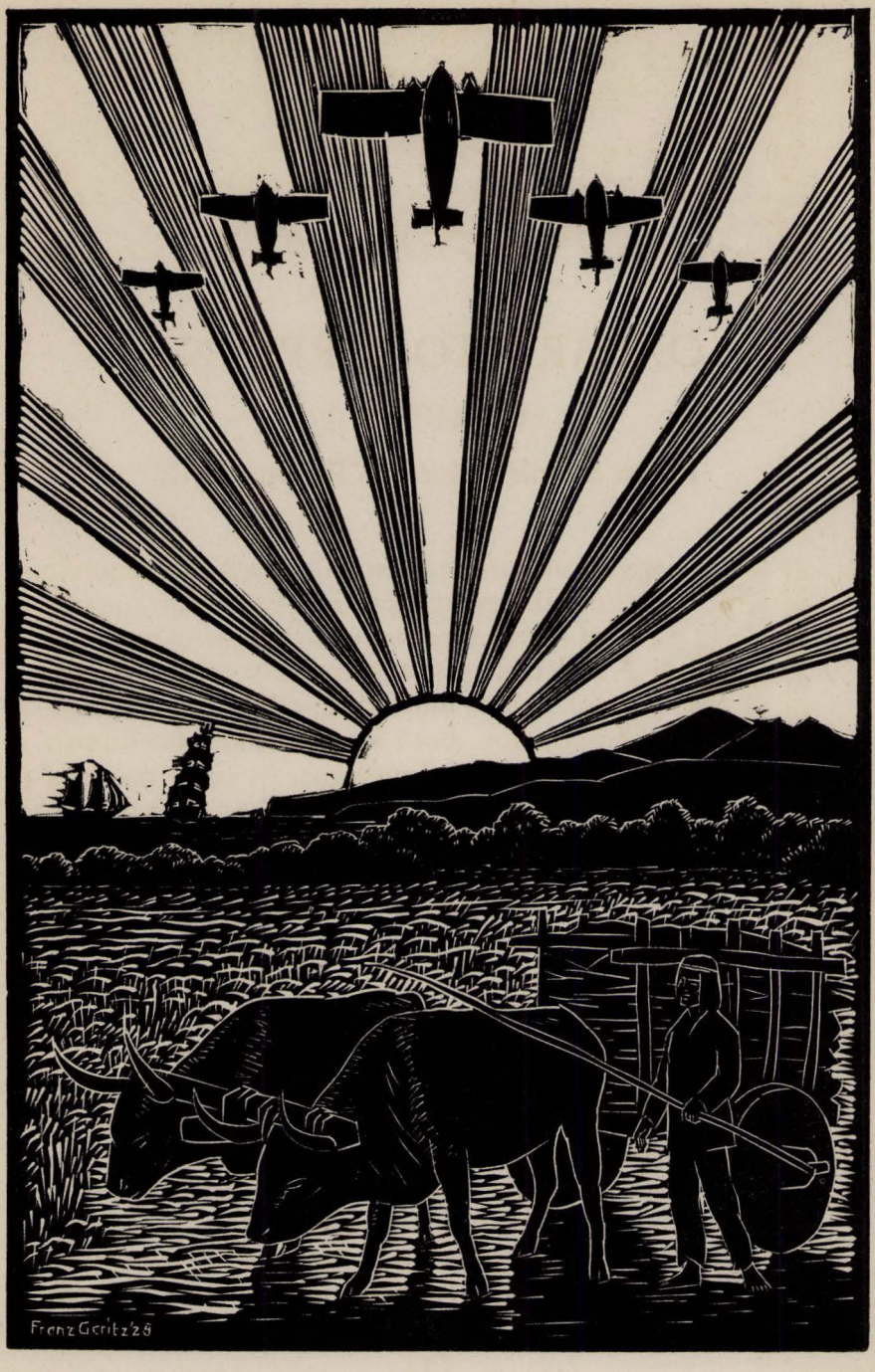
By Rockwell D. Hunt


Franz Geritz '29

OXCART TO AIRPLANE

CHAPTER I

From Shank's Mare to Puffing Billy

DURING THE early stages of man's economic development, agencies of transport outside of his own power of locomotion were but a detail of comparatively slight importance; but long since, the factor of transportation, both for goods and for human beings, has attained prime significance in every realm of activity.

The multiplicity of man's wants seems to be a universal principle in the progress of the race. No sooner is a given want satisfied than new wants spring into being; every good attained becomes but the vantage ground for the possible attainment of others. One of the outstanding characteristics of human wants is their well-nigh infinite variety. The few simple demands of the poor immigrant boy multiply themselves indefinitely in the lives of his children.

Transportation—antedating by long ages true commerce, which is dependent on it—is a natural corollary. Travel and communication are like unto transportation. An infinite variety of goods and services is an obvious every-day result—likewise the diffusion of the races

across the seven seas and to the uttermost parts of the earth. And so with every added facility the natural hunger for travel is rendered more keen and voracious. The ideal of local self-sufficiency belongs to a bygone age. The ideal of tomorrow may be expressed in the form of a slogan—the world for all and all for the world.

Transportation, travel, communication—these are prime essentials in the onward march of human progress. And the improvement in the mechanics and technic of transportation has been so marvelous since the first American made his way across the wilderness and the desert into California as to constitute an amazing epoch in the annals of human history. H. G. Wells has pointed out that the chief, most typical issue of all that is happening in the world today is "the revolution in the facilities of locomotion and communication that has occurred to the world." The most distant points are now brought within easy access of each other: present-day communication "annihilates distances and makes the world one compact and social organization."

It thus becomes obvious that free circulation of citizens and of commodities is no less essential to the higher well-being of a people than the unimpaired circulation of the blood to the human organism. Increasing facilities in transportation and communication must be regarded as a significant and vital factor in any dynamic society. Rightly viewed they are as truly productive economically as the harvesting of the crop or the building of a house. The importance of their rôle increases *pari passu* with the complexity of the economic system. Thus a highly developed transportation system must be regarded as a necessary corollary to high specialization of industry in general. To employ the words of Arthur T. Hadley, "The substitution of turnpikes for common roads, of canals for turnpikes, and the railways for canals was as

essential a part of industrial progress as was the development of the factory system." The market for goods is limited by the means and facilities of transportation in use; the immeasurable extent to which the sum of values is affected by place utility is only beginning to be perceived and recognized in the world at large.

Every country produces a surplus of some goods and has a deficiency of others. In California there is now produced a great surplus of a variety of articles, such as petroleum, cotton, oranges, raisins, pears, peaches, and other fruits. Therefore true economy dictates the exportation of this surplus to an adequate market and the importation of other articles and money of equivalent value.

It is the function of transportation to make possible this desirable exchange of surpluses, upon which nation-wide and world-wide markets are conditioned, thus creating place utilities and contributing to a balanced economic life and making possible the wider satisfaction of man's ever-expanding wants. The world is laid under tribute to spread the breakfast table of a well-to-do American.

"Camel-Born Civilization"

But in the course of human history the road and the highway, as well as navigable waters, have always had a military and a political importance that have not been less than the economic significance. The earliest civilization is said to have been a camel-born civilization. The well-known advantages embodied in this long-suffering beast of burden fit him to be a natural means of transportation; thus it cannot be held an accident that, speaking broadly, the first great civilizations were localized where the camel lived. Even before men had a fixed habitat, transportation was the essential principle of the nomadic state.

To the early Babylonians and Assyrians is attributed the perfecting, if not the invention, of the cart, as well as the first domestication of animals for the purpose of lightening the burdens of human beings—though there are no authentic records of such early developments. Trail making and road building were always and everywhere a token of civilization—and so the construction of highways in our own day is a conspicuous evidence of enlightened progress. While the ancient Phoenicians depended chiefly upon their prowess on the sea for commercial supremacy, they nevertheless established extensive land routes by which their merchants were enabled to penetrate into the interior parts of Asia as well as eastern Europe. The camel caravan may seem to us to move at a snail's pace, but the caravan roads extending into Arabia, Armenia, and Mesopotamia, penetrating even to India and the borders of China, constituted one of the great moving forces of the centuries of antiquity. The boasted wealth of the Indies was made available through the development of great overland routes. The vast Persian Empire could not have been held together except for its wonderful roads; in Greece roads were constructed to the sacred places, chief of which was Delphi; and it is now commonplace to state that the Romans in imperial days had by far the best system of roads known to the ancient world—permanently constructed highways to the extent of more than 50,000 miles—a truly marvelous system stretching to Constantinople and Asia Minor on the east and to Spain on the west maintained connection between the various provinces, even including Britain; and all roads led to the Eternal City. Even twentieth century American tourists, who have been almost everywhere and seen well-nigh everything, are thrilled by a visit to the Appian Way.

Rôle of the Road

Charlemagne undertook to repair many old Roman roads and he employed mounted messengers to carry imperial mandates to distant parts of his vast realm. Under his less energetic successors and during much of the medieval period, the roads of the empire fell into decay with the retreat of economic life, and trade sadly languished. The lack of good roads during the medieval period imposed a serious handicap to exchange and helps to explain the meagerness of trade and the severe restrictions of commerce. Europe was sleeping the sleep of the middle ages.

With the remarkable political changes wrought by the Renaissance in the fifteenth and sixteenth centuries following the stimulus to trade with the East imparted by the Crusades, came corresponding changes in the systems of transportation and communication. The old trade routes were of necessity abandoned after the capture of Constantinople by the Turks, and world significance therefore attaches to those bold adventures resulting in the discovery of America and the circumnavigation of the globe. Proceeding from the first steps taken by Louis XI, France eventually completed a national system of roads and canals, which, after further improvements by Napoleon Bonaparte, became the basis of the present supervision of the railway network. Similarly Frederick the Great, for Prussia, perceiving the industrial paralysis resulting from defective communication, undertook the construction of a system of turnpikes and canals which eventually attained to the efficient modern service now so conspicuous throughout Germany. It is an accurate generalization to state that land transportation remained slow and expensive down to the close of the eighteenth century. Nineteenth century history of the subject, in

sharp contrast, was to be of the most revolutionary and romantic character.

The Industrial Revolution, which began about the middle of the eighteenth century, was in part a revolt against the "vile," the "execrable" roads of England, so graphically described by that observant traveler, Arthur Young, and the introduction of improved methods of transportation and communication. Everywhere it was the same story; and the counterparts of the changes that occurred in Western civilization in the eighteenth and early nineteenth centuries we are witnessing in the twentieth throughout the great awakening Orient.

Two epoch-making inventions in the history of water transportation are the keel, which enabled the helmsman to sail in any direction regardless of contrary winds, and the compass, by means of which the hardy sailor dared to venture out of sight of land without losing his bearings. Antedating both of these by long centuries, however, was the invention of the wheel—*sine qua non* of land transportation—whose unknown inventor was a true benefactor of the race, well deserving of a tribute from men of an age in which wheels and wheeled vehicles of infinite numbers and varieties are interwoven in the entire fabric of their civilization.

As an evidence of the culture that had developed in the Western Hemisphere previous to the coming of white men may be cited two remarkable roads from Quito to Cuzco, thence to Chile, one following the coast, the other proceeding over the great plateau. Of this mountain road, which was probably almost 2,000 miles long and of which certain parts remain to this day, Humboldt wrote:

"But what above all things relieves the severe aspect of the deserts of the Cordilleras are the remains, as marvelous as unexpected, of a gigantic road, the work of the Incas. In the pass of the Andes between Mausi and Loja we

found on the plain of Puttal much difficulty in making a way for the mules over a marshy piece of ground, while for more than a German mile our sight continually rested on the superb remains of a paved road of the Incas, twenty feet wide, which we marked resting on its deep foundations, and paved with well-cut, dark porphyritic stone. This road was wonderful and does not fall behind the most imposing Roman ways which I have seen in France, Spain and Italy. By barometrical observation I found that this colossal work was at an elevation of 12,440 feet."

We are well warned, however, that, while the "military roads" of the Incas represented extraordinary achievement for aborigines, it is quite fantastic to compare them with the great Roman highways, "to which they are about as comparable as a Boston alley to Pennsylvania Avenue." They are more accurately described as trails so improved as to admit of the easy passage of the llamas but quite without commercial rating, as we understand commerce.

In that portion of North America which was later settled by Anglo-Saxons, where the average state of aboriginal culture was lower, we find no record or evidence of such roads as those built by the Incas. This is emphatically true of California, where most of the Indians were of very backward, savage tribes. Not a wheeled vehicle, not even a potter's wheel—we are assured by James A. B. Scherer—"has ever been found amid the innumerable artifacts dug by archaeologists from the myriad ruins of the Western Hemisphere."

Every American tribe that dwelt near a waterway of any kind seems to have devised some means of navigation—birch canoe, carved dug-out, California "bark-log" or tule *balsa*, raft, float, or bull-hide boat; but the sledge-dog of the north and the pack-dog of the plain

were the only animals that had been taught to serve man as means of transport. Then there came a sudden change—an unparalleled change—which swept over the New World like an avalanche. Of this change Charles F. Lummis has declared: "The Spanish introduction of the horse, mule, burro, and ox to America marked the longest stride so many people, in so short a time, have ever taken in the arts of transportation."

No other single factor has played so important a part in American industry as transportation. Internal improvements—really transportation projects—quickly took first rank among national economic undertakings; accumulations of private capital here found fields for investment; likewise conspicuous business ability found new realms for endeavor; and the development of huge corporations connected with transportation in later days intrigued our ablest captains of industry, resulting in the creation of a forceful group of American millionaires.

The first horse-drawn coaches to appear in Boston—near the end of the eighteenth century—were "frowned upon as the works of the devil"; most overland transportation of goods had been carried on in winter time, sleds being the customary vehicle. Road communication was extremely meager, and such roads as did exist were simply abominable in character. "Choked with mud in the spring," says Harold Faulkner in describing them, "thick with dust in the summer, and heavy with snow in the winter, the overland routes were fraught with the most arduous labor and hardship, frequently by real danger."

In 1776 the first artificial turnpike in America was constructed from Philadelphia to New York. Later this was extended as a stage road to Boston. By the beginning of the nineteenth century the trans-Alleghany country was connected with the Atlantic seaboard by three wagon-roads, one from Philadelphia to Pitts-

burgh, another from the Potomac to the Monongahela, and the third passing through Virginia to Knoxville, Tennessee. For years, however, travel by stage-coach remained comparatively slow, fifty miles a day being a good average for fair summer days and half as many in winter.

With the later construction of national, or military, roads by government appropriation, we cannot here be concerned. It is appropriate, however, to remark that a few statesmen like Albert Gallatin clearly perceived that easy and rapid means of communication throughout its varied parts would prove the best solution for the problems arising out of a vast extent of territory and that "no other single operation within the power of the government could more effectively tend to strengthen and perpetuate that union which secured external independence, domestic peace, and internal liberty." Here was seen an expression of loose constructionism as opposed to the views of the strict constructionists. Unfortunately the approach of the War of 1812, aided and abetted by petty jealousies and local and state prejudices, compassed the virtual defeat of Gallatin's promising plan, the only early result of importance being the Cumberland Road, or National Pike, which holds a conspicuous place in the progress of early American expansion.

Meanwhile the country entered upon a canal-building era whose zenith was not reached until several years after the beginnings of the steam railroad. Men of high standing for their business sagacity pinned their faith to the destiny of the canal, themselves investing heavily in canal stocks. For many years they remained unconvinced that "the iron horse could ever compete with the canal boat in rates."

But we shall do well to remember the prophetic words of George Stephenson in a toast to the success of the

Stockton and Darlington Railway in England, speaking of the time "when railways will come to supersede almost all other methods of conveyance in this country, when mail coaches will go by railway, and railroads will become the Great Highway for the king and all his subjects."

In the meantime a new and revolutionary means of transportation by water, called the steamboat, was being perfected by Robert Fulton, who in 1807 made his memorable trip from New York City to Albany (one hundred and fifty miles) in thirty-two hours. Within four years a steamboat was plying the Ohio River, and very shortly others were to be found in common use. The steamboat cannot be said to have superseded the canal boat—it has been called an aid more truly than a competitor; what was really needed was more rapid transportation for passengers and goods than was afforded by either canal or steamboat. Here again the steam railroad must be previsioned.

The national policy of internal improvements in America never affected national politics very profoundly and after "Jackson's rule" may be said to have disappeared altogether; but it would be well-nigh impossible to exaggerate the influence of improved methods of transportation and communication, by whatever agencies undertaken, upon our economic—and hence, indirectly upon our political and national—growth. Since the War of 1812, especially, our greatest economic achievements have shown a direct dependence on these factors, and without them the political integrity of the expanding nation itself would have been at least highly problematical.

Enter "Puffing Billy"

A real predecessor of the modern railroad track may be found in the crude wooden rails on which were drawn by horses little cars, or wagons, from English collieries to

tide-water. To give the road longer life, thin sheets of iron were later laid upon the wooden rails. About the time when Watt patented his first steam engine but almost half a century before Stephenson built the first locomotive, "Puffing Billy," the fundamental principles of the modern road-bed were first practically applied. "Just as vessels had existed for ages before the introduction of mechanical power," wrote John Moody, "so the railroad had been a familiar sight in the mining districts of England for at least two centuries before the invention of what really gave it wings and turned it to wider uses."

Is it not of unique interest that these three new conspicuous transportation methods made their appearance in America at substantially the same time—the steamboat, the canal boat, and the railway car? Of these the last was the slowest to come into popular use, while the success of the Erie Canal was such as to cause a wide-spread "canal mania" and to heap contumely upon the "ridiculous claims made in favor of the railroad." Indeed the first railroads aroused strenuous opposition, especially on the part of the farmers. "The rough pictures which accompany most accounts of early railroad days," quoting Moody's words, "showing a train of omnibus-like carriages pulled by a locomotive with upright boiler, really represent a somewhat advanced stage of development.... The farmers asserted that the sparks set fire to their hayricks and barns and that the noise frightened their hens so that they would not lay and their cows so that they could not give milk."

How speedily and completely the railroad demonstrated its practical value and transformed opposition and ridicule into admiration and enthusiasm is now matter of common knowledge. In the race for supremacy it was not long till it became perfectly obvious that the canal was

completely outdistanced; while the development of the steamboat has been such as to make it worthy to be compared with that of the railroad itself.

Centenary of the Railroad

The first century of railroad history has just been completed and a thrilling story this has been—nor has the final chapter of this story been yet recorded. Mr. H. G. Wells observed, a few years ago, "The United States is being woven by railway, by telegraph, more and more into one vast human unity, speaking, thinking, and acting harmoniously with itself."

There are those who were recently thinking they could see the complete elimination of the steam railway, or at least of the steam locomotive, and the inauguration of a completely new era in transportation. Is it not easy, they argued, to see in this age of electricity, of gasoline-driven vehicles, and of airplanes the finish of these hundred-year-old steam cars?

The railroad of today, as a business, differs very widely from the airplane, or even the automobile, in this—that while the production of airplanes is still in its early formative stage and that of the automobile is still developing so rapidly, the railroad business and railroad traffic have long since become much more stabilized and hence more conservative. When Congress passed the Transportation Act of 1920, there was embodied in legislation—to employ the words of W. W. Atterbury, President of the Pennsylvania Railroad—the basic principle that "the real purpose of regulation is not primarily restriction of earnings, but rather the provision of adequate transportation facilities and the rendering of satisfactory service." After the passage of that act, which is destined to occupy a memorable place in railroad annals, the chief executives bent their energies toward the further and

continuous improvement of the important service, confident in the belief that the American public would appreciate their efforts and lend support to an enlarged constructive program. The results have proved this confidence well placed, for the service to the public has shown marked improvement, and railroad earnings have increased. Since 1921 the country as a whole has experienced a period of prosperity that is held to be unique in the history of business, and that in the face of a gradual reduction of commodity prices. To this prosperity the improved railroad transportation facilities and service have made a notable contribution.

The steam railroad in California, and throughout the country, has been able to hold its place of premiership among transportation facilities, in the face of competition not dreamed of less than a generation ago, because of its adaptability, because it has steadfastly refused to become static—in short, because it has been able to do new things, in better ways, thus reaping the benefits of dynamic enterprise. Marvelous as are the advantages of luxurious railway travel from California to eastern centers today, we may be sure the limit has not even yet been reached, either in speed, safety, or comfort. In the interest of the public there must and will be far more and better coordination of railroad with motor truck, with uses of these agencies, respectively, based on scientific study. And who can now foresee the beneficent effects of a fine cooperation between the railroads and the air mail and aerial express service? It is a significant sign of a progressive age to witness the president of one of America's greatest railway systems, saying, "Certainly we know that it is the job of the railroads to cooperate with every new development in the art of transportation and communication. Resistance to progress in any direction has always proven to have been a mistake."

Closely allied to transportation, and of like significance in the field of economics as well as in human progress, is communication of information and ideas between remote points, whether by courier, postal facilities, telegraph, telephone, or radio. And therein are to be found some of the most astounding miracles of the modern age. It is probably no exaggeration to state that the revolution that has taken place in locomotion and communication has increased the normal range of activities among enlightened people at least tenfold. There are more than seven wonders in the modern world of transportation and communication.

Chapter II

CHAPTER II

Arcadian Days

THE CALIFORNIA aborigines, speaking very generally, remained quite steadfastly within rigidly defined boundaries, and are not, therefore, to be regarded as nomadic in the ordinary sense. To pass beyond the landmarks fixed for their own small areas might even mean death, among many of the fiercer tribes.

To be sure, bands of Indians frequently went on foraging expeditions for a more ample food supply, or for fresh supplies for war materials—such as obsidian or pigment; and such survivals as the huge shell-mounds up and down the coast tell of their seasonal visits to the seaside through the generations. Nevertheless, taken as a whole, they were far from warlike—and wholly devoid of that restless, aggressive spirit that characterized the typical frontiersman of the United States—and innocent of the pursuits of an enlightened people. They tilled not the soil, neither did they possess domestic animals. It would not be accurate to call them wanderers on the face of the earth, for their only means of transportation were such as everywhere characterized the men of the stone age. Nothing could be more striking than the contrast in the methods and practice of locomotion between the primi-

tive people of California and the American moderns who now dwell in great cities where once existed a few scattered and lowly *rancherias*.

Pilgrim Fathers of the Golden West

Among all the early European explorers in the New World, the palm for pedestrianism should probably go to Cabeza de Vaca as champion. After the ill-fated expedition under Narvaez, which landed in Florida in 1528, had gone to pieces, de Vaca, one of the unfortunate members, pressed his way westward, suffering incredible experiences, and, astounding as it now seems, lived to reach Culiacán, on the other side of the continent. His unforgettable story was rendered doubly significant because he reported that he had visited the great kingdom of Quivira and had seen the wonderful Seven Cities of Cíbola.

Moreover, it was Cabeza de Vaca's famous tramp across the continent that furnished the indirect occasion for what is claimed as the first visit of a white man to California. This was as a part of the great Coronado expedition of 1540 in search of the fabled Seven Cities, when Melchor Díaz marched northward through Sonora to the Colorado River. In February, 1541, he ascended the east bank of that river, which he then crossed near the junction of the Gila, thus setting foot on California soil. Whether this happened to be in Alta California or Baja California is of less consequence than the fact that the exploit itself was performed more than a year and a half before Cabrillo reached San Diego in his memorable voyage of discovery, and more than two and a quarter centuries before Captain Portolá and Father Serra reached San Diego, in 1769.

Uncomplaining patience and utter devotion to his life purpose were the resplendent qualities of Father Junípero Serra, California's Knight of the Cross. On reaching

Vera Cruz, New Spain, after ninety-nine tedious days, he found no carriage nor other means of conveyance at the port to take him to Mexico City, the base of operations, a hundred Spanish leagues distant.

Eager to proceed without delay, however, his zeal impelled him to undertake the arduous journey on foot. With totally inadequate provision, accompanied by a single companion, he set out. Good Samaritans here and there along the way made it possible for him to reach his destination—as with dogged persistence and Christian fortitude he reached many a subsequent destination in Alta California; but always thereafter he suffered from a running sore in his leg, which is said to have been caused by his severe over-exertion in reaching Mexico City.

Now Spain had encountered great and apparently insuperable difficulties in gaining a real foothold along the coast of Baja and Alta California, notwithstanding the expeditions by sea of illustrious captains like Cortez, Cabrillo, and Vizcaíno. It began to be perceived, therefore, that an advance to the California border overland was of the utmost importance.

Professor Charles E. Chapman has pointed out that the "northward expansion from Mexico City may be said to have followed three principal lines: northwestward to Sonora and the Californias; up the central plateau through Nueva Vizcaya . . . . to New Mexico; similarly, but branching off to run through Coahuila into Texas." In the meantime the work of founding Christian missions in Baja California (by the Jesuits) and in other parts of New Spain was progressing. Horses and mules, as well as cattle, had already been introduced, and increasing numbers were to be found at the mission settlements.

The story of the final occupation of Alta California has been told and retold, yet deserves well the prominence given it. The coming of José Galvez as *Visitador-General*

of New Spain put an entirely new aspect on the snail-like movement to the northwest. His personal force, administrative capacity, and unflagging energy were sorely needed.

There was the four-fold expedition—two divisions by land and two by sea. Francisco Palóu makes this significant comment:

"It was considered that the land expedition was not less arduous and dangerous than that by sea, owing to the many savage and depraved tribes through which it had to pass; hence it was resolved, in imitation of the patriarch Jacob, to divide it into two companies, so that if one should be unfortunate the other might be saved."

That first land expedition of whites bound for Alta California, under command of Rivera y Moncada, well illustrates the transportation methods of the pioneers of 1769. It was totally devoid of the luxuries and even the comforts of travel. The captain called at various missions of Baja California to collect such horses and mules as could be spared, and selected twenty-five soldiers, three muleteers, and a number of Indian neophytes and servants. The herd of two hundred cattle taken from the most northerly mission of the peninsula became the nucleus of the thousands of California cattle that later roamed over hill and plain.

In the early spring of 1769 Rivera's little army began its northward march, to be followed within a month by the second division, headed by Governor Gaspar de Portolá. Father Serra was delayed for a time, but finally mounted his mule and set out in company with a servant and two soldiers. His suffering was acute and continuous, but his spiritual exaltation would not permit him for a single moment to think of remaining behind. After three days spent at Velicatá, he found the ulcerated leg worse than ever when about to resume his journey. The

pain is said to have increased to such a degree that "he could neither stand, nor sit, nor sleep."

On the first of July Portolá's company reached the site of San Diego, overlooking the beautiful land-locked bay. Rivera's party had arrived six weeks earlier, covering some four hundred miles in fifty-one days. This was an average of almost eight miles per day! Portolá's march was completed with somewhat less difficulty and in the better time of eight and a half miles per day! Of the forty-four Indians with whom he started only twelve reached San Diego. Nevertheless, with that entrance into Alta California by Rivera and Portolá, the territory itself saw the beginnings of a new era in transportation, as in other evidences of civilization; the horse and the mule were henceforth to serve man in California.

Convinced of the importance of settling and fortifying the territory about the newly-discovered San Francisco Bay, Viceroy Bucareli granted a license to make an overland expedition from Sonora to Monterey to Juan Bautista de Anza, bronzed hero of a hundred camps and of unnumbered Indian fights, picturesque in his plumed *sombrero* and flying cape. For many years he had been obsessed with an ambition to discover a practicable route to Alta California. The inadequacy of the Baja California route had now been demonstrated. Associated with Anza as traveling companion on this perilous and unparalleled enterprise was Father Francisco Garcés, an experienced explorer of much renown, well versed in the lore of the desert and fully trusted by the fiercest Indians.

Eager to be on his way, Anza set forth from Tubac on the eighth of January, 1774. His party, numbering thirty-four persons in all, included besides Fathers Garcés and Díaz a score of volunteers from his presidio, a Pima interpreter, and two servants. In the caravan were

thirty-five pack loads of provisions, sixty-five head of cattle (for food), and one hundred forty horses.

Professor Herbert E. Bolton has given us a minute and accurate account of this most remarkable expedition. A few paragraphs from his story of the march will illustrate the experiences of the travelers and the perils that beset the way:

"Turning southward, Anza crossed the divide and descended the Altar River, through the Pima mission to Altar. Obtaining horseshoe iron, a few fresh horses, some ill-fed mules—stacks of bones, he called them—and provisions, on January twenty-second he made his final start from Caborca, the last Spanish settlement between Sonora and Mission San Gabriel (at Los Angeles).

"Here [sand dunes of Colorado Desert] began the real test of Anza's mettle. As they neared enemy territory the Cojat guides misled the Spaniards and then deserted. . . . Anza reached the terrible dunes, where the shifting sands had completely obliterated the trails. Before night the pack mules were so used up that Anza decided that their burdens must be lightened, and he proposed to send half the packs back to Palma's village. Garcés objected and Anza yielded. Encountering now a great mountain of sand which the tired mules could not even attempt, Anza turned south. . . .

"But no village could be found. Both Garcés and Tarabal were now completely lost in the sea of sand dunes; the animals were played out; part of the horses had been made ill by eating a noxious herb; there was no near prospect for either water or pasturage; in short, there was nothing for Anza to do but to retreat to Santa Olaya. Even this was most difficult, and before it was accomplished several horses and mules had died. . . .

"Anza now changed his plans . . . . With the rest of the men, the strongest horses, the ten best mules, and pro-

visions for a month, on March 2, Anza again set forth. Six days of hard riding took him to good springs and pasturage near the foot of the Sierra Nevadas. Garcés and Tarabal both recognized the locality. The success of the enterprise was now assured and the event was celebrated."

On March 16, the party emerged through a rocky pass at the summit to which Anza gave the name *El Paso de San Carlos*. "A desert waste lay behind him; flower-strewn California lay before him. Victory was his."

The resourceful captain had succeeded in opening the overland route into Alta California. From San Gabriel he proceeded to Monterey, in all a march of more than 1,000 miles; and having completed his mission he made the return trip to Tubac, to the great satisfaction of the Viceroy.

The coming of Anza's second expedition into California was in truth a mighty invasion. The company at the start numbered in all 240 individuals—men, women, and children—and on reaching their destination it was found that the number was 244—no fewer than eight babies were born *en route*. The long cavalcade of humans and animals, "some of the mules carrying two or three children," was a striking and colorful spectacle. "Time was found," says Mrs. Nellie Sánchez, "for love-making as well as for mourning, and on the 26th of October three marriages were celebrated among the people. Discipline was strict; a runaway muleteer, when brought in by the Indians, received twelve lashes, and another twenty-five."

On arriving with a few men at the site of San Francisco in the spring of 1776 (the families being left at Monterey) Anza selected the sight for the presidio, also for the mission and thus on the 29th of March was founded the settlement at the port of San Francisco which Font pronounced "a marvel of nature" that "may be called the port of ports." When the courageous captain was about

to take his leave of the colonists, they gathered about him, many shedding tears at the parting, and, in Anza's own words, "with embraces and wishes for my happiness bade me farewell, giving me praises I did not deserve." Juan Bautista de Anza mounted his horse and was gone—his captivating scene had been enacted. But neither his name nor his deed will be forgotten.

Mail Service

Near the close of the eighteenth century, after the founding of the first series of Franciscan missions and the establishment of the early presidios and pueblos, a system of couriers was inaugurated between Alta California (the capital was Monterey) and Mexico City. Starting on the first day of each month from San Francisco (the northernmost presidio), a soldier-courier traveled southward along the King's Highway, or what was at that time called *Camino del Rey*. At each of the settlements he stopped for perhaps an hour, gathering up such letters and messages as were ready to be forwarded from each mission, presidio, and pueblo. The direct line of communication extended about 1,500 miles—that is, from San Francisco to Loreto. From Loreto the messages were transported across the gulf of San Blas and forwarded by overland route to Mexico City. While these Spanish soldier mail riders were making their round trips of 3,000 miles between San Francisco and Loreto at the time of the formation of the American Union, the longest continuous mail route in the United States extended from Falmouth, Maine, to Savannah, Georgia, a distance of 1,100 miles—and no through service at that.

This early mail service adhered to something like a definite schedule, with arrivals and departures at fixed times. At the pueblo, the mail matter was usually handled by the alcalde (mayor-magistrate) or by a regu-

larly appointed postmaster, who made his distribution directly from the post-office. At the presidio the paymaster collected and distributed the mail and was compensated at the rate of 8 per cent of the gross receipts, a trifling amount. It is said that the revenue from all Alta California for the last decade in the eighteenth century approximated the magnificent sum of $700! Indian runners carried the mail between missions, the padres enjoying the privilege, secured by Serra, of sending letters free. The local mails were far from having a fixed schedule, and the carrier was often the bearer of but a single letter. This was carried at the end of a staff in which a split had been made for the insertion of the letter. In the early morning the Indian, wearing nothing more than a breech-clout, seized the cleft stick, rested it upon his shoulder, and set forth on a dog-trot that sometimes carried him sixty to seventy miles before nightfall.

Under Mexican rule there was nothing approaching a regular postal system throughout the settled portions of California, such mails as there were depending on the decidedly irregular arrival of vessels bearing supplies and the occasional couriers—and finally on the unhurried convenience of the *comandante*. The Californians in Arcady enjoyed a remarkable state of isolation from the outside world, not always relished by the señorita whose fortune it had been to meet some dashing foreign trader or Yankee sea captain! According to the diary of an American pioneer, it required three months and twenty days for the death of President William Henry Harrison in 1841 to reach California.

Gertrude Atherton, in *The Splendid Idle Forties*, quaintly introduces the "Wash-tub Mail," which is perhaps worthy to be regarded as a sort of Californian prototype of the "grapevine," so widely ramifying at the time of the World War. Referring to those months immediately

following the completion of the American conquest, she discloses the secret of this quick but mystifying system of communication:

"The women about the tubs still bitterly protested against the downfall of California, still took an absorbing interest in all matters, domestic, social, political. For those old women with grizzled locks escaping from a cotton handkerchief wound band-wise about their heads, their ample forms untrammeled by the flowing garments of calico, those girls in bright skirts and white short-sleeved smock and young hair braided, knew all the news of the country, past and to come, many hours in advance of the dons and doñas whose linen they washed in the great stone tubs; the Indians, domestic and roving, were their faithful friends."

It cannot be accounted strange that frequent and diligent inquiry was made—"What news has the wash-tub mail, today?" Nor was there occasion for great surprise when there was heard to rise from the old women, bent low at their accustomed toil, the fervent ejaculation, "Thank heaven for the wash-tub mail!"

El Camino Real

The true *Via Sacra* of Arcadian California was El Camino Real. This royal highway with its total of seven hundred miles "between the Harbor of the Sun and the Valley of the Seven Moons" has long been a subject of song and story. It is the road of romance and of devotion. By extending his vivid imagination Don Antonio Coronel claimed that it commenced in far-away Guatemala, as it—at first—ended in Monterey. With the founding of Mission San Francisco Solano in 1823, we think of it as linking together the remarkable cordon of twenty-one Franciscan missions of Alta California,

from San Diego to Sonoma. These were situated in eligible spots a day's journey on foot apart.

In travelling from mission to mission a trail—or, more accurately, an irregular series of trails—was gradually established, which eventually took on the appearance of an uneven road. From the standpoint of today, it was never more than the merest pretext of a highway, even though Coronel referred to it as the "recognized highway of official travel." Nevertheless, viewed through the eyes of the intimate historian—or in the light of art and of romance—it assumes a spiritual significance that gives it unique charm and fascination among earth's highways. What mattered it if there was no single roadway followed consistently all the way? Or if a detour must be made because of a fallen tree? Or if stretches became impassable after a generous shower? Or if the beaten path were forsaken in favor of a newly-found cut-off? Take it all in all, it was more than a highway—it became an institution. View it for a moment with the seeing eyes of George Wharton James, who so loved to retrace the footsteps of the padres "in and out of the old Missions."

"From the beginning of its real history, over this King's Highway, again and again, back and forth, happily or wearily, according as his extensive plans prospered or dragged, walked the sainted Serra. Here he sang aloud; there he sank upon his knees in prayer; yonder he wept in anguish as the news of some delay in his beloved work, or some Indian outburst reached him.

"This road saw the coming of the colonists from Mexico; heard their openly expressed hopes, fears, expectations. As the years rolled on it heard the squeak and rattle of the lumbering carreta as elderly señoras rode, accompanied by gay *caballeros* clad in zarape and sombrero, riding on saddles of price, carved in exquisite

design and skilfully inlaid with silver. And the señoritas, did they stay at home? No! The historic road saw them ride also, always, of course, accompanied by their duennas, but by no means the less happy and joyuos, though perhaps somewhat less exuberant.

"Indeed to know the history of the Camino Real is to know the history of the California of those days."

The early travelers on this historic road were the explorers and vanguard who gave to civilization its California—Serra, Palóu, Crespí, Lasuén, Portolá, de Neve, Fages, Borica, with all their coadjutors and successors.

With secularization the highway fell into disuse; with the American conquest all was changed. As the missions fell into decay, El Camino Real was all but forgotten—it belonged to another age. But with the revival of interest in California's uniquely romantic history and the inauguration of the policy of improved state highways, there arose a persistent agitation for rehabilitation. Through the patriotic efforts of men and women who love their commonwealth and cherish its heritage from the past, the Royal Highway has been restored and is today, as a series of good roads of enduring concrete, marked by wayside mission bells hung from iron posts extending in a virtually unbroken chain from San Diego to Sonoma. An unending caravan of automobiles filled with modern pilgrims rolls ceaselessly along "in the footprints of the padres."

The Horse and the Mule

Before the *gringos* came, the chief means of transport in Arcadian California were the pack mule, and the lowly burro, the saddle horse, and the *carreta*, with the patient ox, never forgetting the human burden bearer—the docile Indian servant. It cannot be said that the mule-train was

peculiar to California; it is an institution that has been common to many lands, in many climes, in many ages.

To understand and interpret the mule calls for a genius not vouchsafed to the tenderfoot; but in those early Spanish and Mexican days many otherwise grossly illiterate Californians displayed a remarkable mastery of mule-craft. The foibles and idiosyncrasies of the mule, which Bayard Taylor pronounced "as knowing as he was perverse," are past finding out. It was customary in the Southwest to have a horse in each mule-train (*atajos*), "as a sort of magnet to keep together the separate atoms of the train, for, whatever the temptation," continues Taylor, "they will never stray far from him." To arrange the sundry articles of merchandise symmetrically on the sturdily made pack-saddle (*aparejo*) and to bind the saddle itself securely to the elusive mule has always and everywhere been a high mark of mule-craft.

During the early mining days of the American period, before the advent of the railroad, the pack-train was an invaluable accessory to the trains of freight wagons serving the principal towns and camps. Such a train often numbered upward of a score of mules, each bearing from 200 to 400 pounds of freight. The patient animal, trained to be ever on the lookout, carefully guarded his load from jutting rocks and encroaching trees, and gave the signal for a stop when perchance something went wrong.

To the Mexicans, generation after generation the same, the mule and the meek little burro were virtually indispensable. In her *Incidents on Land and Water*, Mrs. D. B. Bates tells us she often amused herself for hours, "studying, not human nature, but mule nature." Continuing, she entertainingly writes:

"It is really astonishing to witness those pack-mules, and see the wonderful knowledge they display by their

manœuvres. In packing them for a trip to the mountains, the Mexicans load them unmercifully. They make them carry loads weighing from three hundred to three hundred and fifty pounds, and strap the articles on so tightly that I should think it would stop their breath. The poor creatures will tremble under such an unmerciful load, and sometimes I have seen them, after going a little way, fall from exhaustion, and the weight of their load .... These pack-mules have such a horror of going with their loads to the mountains, that, after they are packed, and are waiting for the remainder of the train (these trains sometimes consist of fifty and sixty mules), they will endeavor to secrete themselves away behind some building or wagon, and keep so very still and quiet, seemingly listening and hoping they may not be found. By and by, when the old, cruel Mexican warns them of his presence by a heavy slap with the piece of untanned hide he invariably carries in his hand, accompanied with the expression of *hippa, mula*! one can almost see a shade of the deepest despair cross the poor mule's countenance, as he joins the train, which is going to travel many weary, tedious miles, over rough mountains, and through deep ravines.

"These trains are led by a horse, with a bell attached to his neck. He is designated the bell-horse; and these mules have such an affection for him, that they will follow him anywhere he goes. Generally, three or four Mexicans accompany each train. When night overtakes them, they unpack the animals, and form a sort of corral of the pack-saddles, which they place in a circle around the goods, which they lay in piles, each load beside the saddle upon which it belongs. The mules are turned out to graze. In the morning, after giving them their breakfast, at a signal from the Mexicans, each mule places himself in a position to be packed beside his own saddle,

and never makes a mistake by placing himself beside his neighbor's.

"When they return to the valley again, they are so delighted, that when they get to within a mile or two of the town, they commence running, and braying at the top of their voices. And then look out for the dust! Such clouds of it as they will raise in passing a house, is almost suffocating. You must hasten, and close the doors and windows, otherwise the house will be filled."

The Californian was passionately fond of the horse—particularly of his favorite saddle-horse. Horses were at first, along with other domestic animals, almost exclusively the property of the missions; but the soldiers always required a limited number of horses, and as the pioneer settlers (*pobladores*) increased in number and as land grants gradually took on the aspect of vast *ranchos*, private individuals acquired some live-stock, and from this the natural increase was very rapid. We learn from Guadalupe Vallejo that by 1806 there were so many horses about San José and the Santa Clara Valley that it was deemed necessary to kill seven or eight thousand. The following year thousands more were driven ruthlessly into the sea at Santa Barbara, and at a later date the same thing occurred at Monterey. It was estimated that shortly before the secularization of the missions there were in the territory more than 62,000 horses and mules, with upwards of 420,000 head of cattle.

Horses, more especially those that were unbroken to saddle and bridle, were for a long time among the cheapest commodities in California—if a horse was lost, that was nothing; there were always plenty more. But not so with a good saddle—it was highly prized, not only for its monetary value but likewise for its particular marks of individuality. At the time of Governor Pedro Fages, near the close of the eighteenth century, horses

could be bought for from two or three to nine dollars apiece—favorite saddle-horses being, of course, worth much more; but saddles cost from twelve to sixteen dollars. Although common horses were superabundant, and sometimes a positive drug on the market, Vallejo assures us that "fast and beautiful horses were never more prized in any country than in California, and each young man had his favorites." The first choice among all mustangs, for color, was "a peculiar light cream-colored horse, with silver-white mane and tail." Next to this the dapple-grey and chestnut horses were most admired.

The padres of the missions did not refuse to ride on horseback; but more commonly—when they travelled by other means than walking, which was rarely—they made use of the *volante*, constructed somewhat after the manner of the modern carriage, and always drawn by mules—white mules greatly preferred. What was believed to be the only exception to the oxcarts as a wheeled vehicle in California at the time was a curiously constructed carriage with a "narrow body of sufficient width for one person only," designed by Padre José Viader of Santa Clara and made by his neophyte mechanics.

On the occasion of the centennial celebration for the founding of Los Angeles (September 5, 1881), the colorful and remarkable procession under the marshalship of General George Stoneman—we are informed by an eye-witness—was made up of such vehicles, costumed passengers, and riders as suggested at once the motley but interesting character of the city's past. There were old creaking carretas that had seen service in pioneer days; there were richly decorated saddles, on which rode gay and expert horsemen; and there were also the more up-to-date and fashionable carriages which, with the advent of transcontinental railroading, had at last reached the coast.

Two vehicles that made their appearance—most picturesquely—in California well in advance of the day of carriages were the "Chariot" for postilion and footman, brought in from Mexico at an early date for General M. G. Vallejo, and the striking governor's equipage brought in by Micheltorena in 1842. This strongly resembled a common spring wagon, being provided with regular shafts—but no California horses were broken to work in them, "so the governor had two mounted *vaqueros* to pull it, their *reatas* being fastened to the shafts and to the pommels of their saddles." In this the aristocratic but exceedingly unpopular Micheltorena rode about in solemn state.

In his *Three Years in California* Reverend Walter Colton has this to say about the inveterate habit of horseback riding:

"A Californian is most at home in his saddle; there he has some claims to originality, if not in character then in costume. His hat, with its conical crown and broad rim, throws back the sun's rays from its dark, glazed surface. It is fastened on by a band which passes under his chin, and rests on a red handkerchief, which turbans his head, from beneath which his black locks flow out upon the wind. . . .

"His feet rest in stirrups of wood, carved from the solid oak, and which are extremely strong and heavy. His saddle rises high fore and aft, and is broadly skirted with leather, which is stamped into figures, through the interstices of which red and green silk flash out with gay effect. The reins of his bridle are thick and narrow, and the headstall is profusely ornamented with silver plate. His horse, with his long flowing mane, arching neck, broad chest, full flanks, and slender legs, is full of fire. He seldom trots, and will gallop all day without seeming to be weary. On his back is the Californian's home.

Leave him this home, and you may have the rest of the world."

Take away the saddle-horse and his rider from those glamorous days and you rob Arcadian California of one of its greatest charms. So fond were the people of riding that an early American observer remarked that "many were almost born in the saddle." Good riding was expected as a matter of course.

The Old Carreta

The only kind of home-made vehicle with wheels in California was the clumsy oxcart, or *carreta*, which was widely used for the transportation of heavy goods and sometimes as a family carriage. Many foreign visitors to the country and numbers of early American immigrants had ample opportunity to see—and hear!—the oxcart in ordinary and extraordinary use. Let us ask some of these witnesses to describe for us that old vehicle that is long since a complete anachronism.

In his *Century* article on life in California before the gold discovery, John Bidwell thus describes that clumsy contraption for locomotion called the carreta:

"At this time there was not in California any vehicle except a rude California cart; the wheels were without tires, and were made by felling an oak tree and hewing it down till it made a solid wheel nearly a foot thick on the rim and a little larger where the axle went through. The hole for the axle would be eight or nine inches in diameter, but a few years' use would increase it to a foot. To make the hole, an auger, gouge, or chisel was sometimes used, but the principal tool was an ax. A small tree required but little hewing and shaping to answer for an axle. These carts were always drawn by oxen, the yoke being lashed with rawhide to the horns. To lubricate the axles they used soap (that is one thing the Mexicans

could make), carrying along for the purpose a big pail of thick soapsuds which was constantly put in the box or hole; but you could generally tell when a California cart was coming half a mile away by the squeaking. I have seen families of the wealthiest people go long distances at the rate of thirty miles a day, visiting in one of these clumsy two-wheeled vehicles. They had a little framework around it made of round sticks, and a bullock hide was put in for a floor or bottom. Sometimes the better class would have a little calico for curtains and cover. There was no such thing as a spoked wheel in use then."

Crude as the carretas were as a general thing, there were occasions when they were as pretentious, relatively speaking, as the latest and most luxurious limousine is in our own day. "For the fiestas," wrote Mrs. Rose Winterburn, "they were covered with a brilliant canopy. Sometimes this was a gay silk bedspread, worked in beautiful flowers; a long fringe hung down the sides almost to the axle, protecting the girls and women from the bright rays of the sun. Or lace curtains, Chinese crepe, or bright-colored *rebosos* were used as canopies, giving beauty to the otherwise rude carriages."

In his invaluable *Sixty Years in Southern California* Harris Newmark says that Doña Lanfranco used to tell him how, as a young girl, "she came up from the old Palos Verdes ranch house in a carreta and was always chaperoned by a lady relative. On such occasions, the carreta would be provided with mattresses, pillows, and covers, while at the end, well-strapped, was the trunk containing the finery to be worn at the ball. To reach town even from a point that would now be regarded as near," Newmark continues, "a start was generally made by four o'clock in the morning; and it often took till late the same evening to arrive at the Bella Union, where final preparations were made." On the occasion of such an ex-

cursion to Los Angeles, the scene was sure to be enlivened by from twenty-five to fifty dogs following the creaking carreta, "barking and howling as if mad."

For an excellent description of the carreta let us turn to Charles F. Lummis, to whom we are greatly indebted for a portrayal of the Spanish pioneer at his best in the southwestern part of the United States. In one of his delightful, informing articles he wrote:

"Nor must I omit here a reference to the only wheeled vehicle, probably, ever built in North America which never had a nail or a scrap of iron about it—the old *carreta*. This was a rude oxcart (too heavy for any other motive power). Its two wheels were made each of three pieces of cotton-wood logs on a wooden axle without tires; its body and tongue of stakes hewn from the same soft timber. The date of its invention we do not know, but it runs back at least into the beginning of the seventeenth century. In the remoter parts of New Mexico, a good many were still in use in my time, and I have heard them two miles away shrieking down the road—for there was no axle grease, and wooden wheels on wooden journals, down-grade, give vent to a protest as far audible as any sound I know of. The last one I ever saw in use was in the Indian pueblo of Laguna; and at last, a dozen years ago, it disappeared from the scenes of its activity to crown some curio store."

There were of course no wagon roads in California in those early days. Horseback was virtually universal as the mode of travel; even the women as a rule preferred a fine horse to the lumbering carreta, sans springs and usually of exceedingly slow speed. However, the loud-creaking Mexican oxcart of lowly estate must not be permitted to excite too profoundly the condescending pity of us pampered moderns. If it did lack springs, some bit of real comfort was often supplied by cushions; and on gala

days it might be so bedecked as to compare even with the gaily-caparisoned steed dashing gracefully ahead under the spur-heeled caballero. For the fiesta a wondrously wrought brilliant canopy afforded protection to the women and children. This canopy was perhaps a beautifully flowered silk bedspread, with long fringe dangling almost to the axle, or curtains of exquisite lace, or crepe from far-off China, or brilliantly-colored rebosos. Moreover it is inaccurate to visualize the stolid oxen as always creeping along at the pace of a snail. The driver, riding on a horse at their side, could wield his cruel whip to such effect as to bring them to a full gallop as they sped along the unworked roads, raising clouds of dust behind them. Beauty and romance were by no means divorced from the rude oxcart in the olden California days.

As an illustration of the actual use of the carreta in very recent years, it is reported that in 1916-17 a severe epidemic of smallpox in northern Sonora and Chihuahua drove many of the Mexican peons out of the country; they loaded their meager stock of belongings onto these self-same oxcarts and made their way north into New Mexico. Bidwell asserted: "It is actually more work to haul the clumsy, awkward, large, unhandy carts of the Spaniards than an American wagon with a cord of wood."

The ox yoke was an almost straight stick, or piece of timber, lashed to the animals' horns and foreheads with rawhide. Little or no freedom of movement was allowed the oxen, which were forced to throw their heads back and their noses forward as if undergoing suffering. The best defense of this method of yoking the oxen seemed to be that the Spaniards were using the same yoke—and the same may be said of their bungling plow—that had been used by their ancestors in the ancient days of primitive Spain.

Chapter III

CHAPTER III

Pathways of Plain, Mountain, and Desert

THE PIONEER has been our most genuinely true American. That he was perchance uncouth in outward appearance or not always schooled in the classics mattered little; that he was among the staunchest, most virile, most adventurous of men—men who trekked to the backwoods to hew out their homes and rear their families after manly fashion and in the fear of God—matters much, is the significant fact in the current of our history and in the moulding of our American character.

The frontiersman—the true Westerner—was impatient of restraint, having been emancipated from age-long traditions; nor could he brook the enslavements of an effete aristocracy. He was a modern Abram, whom Jehovah called, saying: "Get thee out of thy country, and from thy kindred, and from thy father's house, unto the land that I will show thee."

It was the remarkable travels and explorations of daring and resourceful Americans like Daniel Boone, Meriwether Lewis, William Clark, John Colter, Zebulon Pike, Jedediah Smith, Ewing Young, William Henry Ashley, John Bidwell, and Joseph Walker that broke the western wilderness, made known the possibilities of

reaching the far-off Pacific by overland routes, and thereby gave point to the pregnant and oft-quoted remark of Frederick J. Turner that the true point of view in American history "is not the Atlantic coast; it is the great West."

In the frontier population three successive classes, like wave following wave in the ocean, are generally distinguishable: First comes the true pioneer, who builds himself a cabin in the clearing and with horse, cow, and a few implements secures a living for himself and family; next is the trader, who adds field to field, erects a school house, and lives as a frugal citizen, with some of the elements of refinement; thirdly, well-dressed men of capital and enterprise find their way to the new community, the crude village takes on the appearance of a modern city with its churches, its college, its trade and industry. "Thus wave after wave is rolling westward," wrote an observer in 1837:—"the real *el dorado* is still farther on."

Boone was the mighty hunter who "led the way across the Appalachians"; Lewis and Clark were the well-provisioned explorers whose memorable exploits are known to every American schoolboy; Jedediah Smith was the supreme representative of a historic procession of trappers and fur traders whose obscure trails were in truth Appian Ways to Western American history; Bidwell was a prince among pioneer settlers, reaching California as a member of the first organized "emigrant train," in 1841, and identifying himself richly with every worthy phase of the *Empire State of the Pacific*.

How came these emissaries of a dynamic Anglo-Saxon civilization in their westward quest? What means of conveyance were employed? What agencies of transportation were invoked? In our generation we may learnedly amuse ourselves by trying meticulously to discover and reconstruct the ancient trails; but we shall do well to remember that the path-breaker is greater than his path,

that the pioneer is more than his route or his ox-team or his faithful horse—in short, that the full-orbed *man* is greater than the most perfect *device*.

Hunters, trappers and traders—it goes without saying—wrought largely on foot, by the sheer necessity of their vocations; and good use they made of nature's mode of locomotion. They were men of sturdy limb and hardened muscle, skilled in all the artifices of the Indians and rendered versatile by devious wanderings and the discipline of varied and exacting experiences.

The faithful saddle-horse and the well-trained pack mule rendered invaluable service to their masters. The trusty horse, fleet and sure-footed on the mountain and in the plain, was more than servant—he was companion and friend. If the loss of life among the trappers was high, the mortality of their animals was yet greater. With numerous mountain tribes of Indians, horse stealing was an easily besetting sin—and abundant supply of horse meat was to them as good as a feast. And even friendly Indians were untroubled by any compunctions about stealing animals.

Jim Bridger's imperishable name will always be associated with the discovery of the Great Salt Lake; Thomas Fitzpatrick was the famous Rocky Mountain trapper whose services as guide were beyond praise—believed to be the first white man to reach the West through South Pass; William Sublette was a fearless trader and wilderness breaker well skilled in the task of matching muscle and nerve against the hazards of the trail, credited with being the first to cross the Rockies with wagons; and Jedediah Smith, youngest member of the historic Rocky Mountain Fur Company, whose name would grace the noblest monument that skill could erect to valorous deed and virtuous character;—these are types of energy and resourcefulness embodied in personalities in the westward-

moving frontier of the American people, which, says Ellen Semple, "is beyond all doubt the most interesting subject that history presents."

The American fur trade, which made a most significant contribution to the great Westward Movement, is essentially comprehended within two decades following 1815. In the brief period from 1826 to 1832, as clearly pointed out by Joseph J. Hill, at least six trails were opened to California—the Smith trail, the Pattie trail, the Jackson trail, the Young trail, the Armijo trail, and the Wolfskill trail.

Francis Parkmen has painted for us imperishable pictures of the early American trappers, hunting the buffalo and hunting the Indians, the long and lonely journey and camp life, perils of the plain and passage through the mountain fastnesses.

He relates how he once met a trapper "whose breast was marked with scars of six bullets and arrows, one of his arms broken by shot and one of his knees shattered"; and yet, he continues, "with the undaunted mettle of New England, from which part of the country he had come, he continued to follow his perilous occupation." To the query of the comfortable city dweller as to the reason impelling the trapper to continue "to follow a life of such hardship and desperate adventure," he gives reply, "There is a mysterious, restless charm in the basilisk eye of danger, and few men perhaps remain long in that wild region without learning to love peril for its own sake, and to laugh carelessly in the face of death."

A single paragraph enables the imagination to visualize the trappers' camp and its equipage better than pages of dull description:

"On the last day of our stay in this camp, the trappers were ready for departure. When in the Black Hills they had caught seven beaver, and they now left their skins in charge of Reynal, to be kept until their return. Their

strong, gaunt horses were equipped with Spanish bits and rude Mexican saddles, to which wooden stirrups were attached, while a buffalo robe was rolled up behind them, and a bundle of beaver traps slung at the pommel. These, together with their rifles, their knives, their powder-horns and bullet pouches, flint and steel and a tin cup, composed their whole traveling equipment. They shook hands with us and rode away; Saraphin with his grim countenance, like a surly bulldog's, was in advance; but Rouleau, clambering gaily into his seat, kicked his horse's sides, flourished his whip in the air, and trotted briskly over the prairie, trolling forth a Canadian song at the top of his lungs."

These are the hardy Americans—these and their hundreds of unnamed comrades in buckskin—whom Hiram H. Chittenden recognizes and honors as the true pathfinders of the West, the pioneers before the pioneers of California and the Pacific Slope. In his matchless history of the *American Fur Trade* this writer has said:

"The American trader and trapper traced the streams to their sources and scaled the mountains. They were the men who were the pathfinders of the West, and not those later official explorers whom posterity so recognizes. No feature of the western geography was ever discovered by government explorers after 1840—everything was already known and had been for a decade. It is true many features like the Yellowstone wonderland, with which these restless rovers were familiar, were afterwards forgotten and were rediscovered in later years, but there never has been a time until very recently when the geography of the West was so thoroughly understood as it was by the trader and trapper from 1830-40. They were the men who first explored the routes which have since been used as the avenues of commerce and transcontinental travel."

American Colonizers

If, as one of our economists has expressed it, colonization "consists of the founding and developing of new communities, of the occupation and settlement of new lands," it follows that the American people were during the nineteenth century the greatest colonizers in the world; for the world's history reveals no equal to the American people in practicing the art of pioneering from the beginning of their national existence to the final disappearance of the primary frontier. The settlement of the great West—the conquest of a continent—was the special task of the nineteenth century.

Two animated pictures of emigrants moving westward in 1820, drawn by a leading literary man of the time, afford a glimpse at the materials of early colonization in the making. James Hall, in his *Letters from the West*, thus describes one of the historic flat-boats with its interesting cargo and passengers, who made use of the Ohio River in seeking their new western home:

"Today we passed two large rafts lashed together, by which simple conveyance several families from New England were transporting themselves and their property to the land of promise in the western woods. Each raft was eighty or ninety feet long, with a small house erected on it; and on each was a stack of hay, round which several horses and cows were feeding, while the paraphernalia of a farm-yard, the plows, wagons, pigs, children, and poultry, carelessly distributed, gave to the whole more the appearance of a permanent residence, than of a caravan of adventurers seeking a home . . . . In this manner these people travel at a slight expense. They bring their own provisions; their raft floats with the current; and honest Jonathan, surrounded with his scolding, grunting, squalling, and neighing dependents, floats to the *point*

proposed, without leaving his own fireside; and on his arrival there, may step on shore with his house, and commence business, like a certain grave personage, who, on his marriage with a rich widow, said he had 'nothing to do but to walk in and hang up his hat.'"

The same writer has left a vivacious description of emigrant families making their toilsome way toward their new homes over such semblances of roads as then existed. A few sentences are here quoted:

"At the time of which I am speaking, the turnpikes . . . were not completed; and if I found it toilsome in the extreme to accomplish my journey on horseback, you may conceive the almost insurmountable difficulties presented to weary-laden wanderers, encumbered with wagons and baggage; yet I found these roads crowded with emigrants of every description, but the majority were of the poorest class. Here I would meet a few lusty fellows, trudging it merrily along; and there a family, more embarrassed, and less cheerful; now a gang of forty or fifty souls, men, women, and children; and now a solitary pedestrian, with his oaken staff, his bottle, and his knapsack; and, once a day, a stage-load of tired travellers, dragged heavily towards the west. Sometimes I beheld a gentleman toiling along with a broken-down vehicle, and sometimes encountered the solitary horseman; here I espied the wreck of a carriage, or the remains of a meal and there the temporary shelter which had protected the benighted stranger. At one time, beside a small stream rushing through a narrow glen, I encountered a party of about four-score persons, with two or three wagons. They had halted to bait; the beasts were grazing among the rocks, the men cleaving wood for fires, and boughs to erect a tenement for the hour; the women cooking or nursing their children, and the rosy boys and girls dabbling in a waterfall. When, from the summit of a moun-

tain, or one of its precipices, where the road wound beneath my feet, appearing at intervals as far as the eye could reach, I beheld one of these large caravans, composed of half-clad beings, of every age and sex, slowly winding up the mountain path, or reclining at mid-day among the rocks, I could compare them only to the gipsy bands, described by foreign novelists."

Pioneer settlements in contact with unsettled land can never become populous communities and industrial centers in the absence of adequate markets—and the market is strictly limited by the facilities for transportation. What advantage over old centers has the newly-settled country unless it can find a market for its copious production in other communities ? How is it possible to receive the great benefits of division of labor and specialized industry without a mobile system of transportation for all surplus products? In the absence of a market and of working capital, industry is necessarily crude and the manner of life essentially primitive. Such was the life of the early American pioneer, before the development of transportation, who "took with him into the wilderness his ax and gun, a few household goods, farm utensils, and domestic animals," wherewith he was enabled "to provide for the subsistence of himself and family."

But it was the restless American's quest of the West, later deepened and intensified by the lure of California, that made transportation the most vital of the many problems confronting both government and people. So vital indeed was it that the location and very existence of settlements were often determined by it. Towns and cities later sprang up—not by accident—at strategic points at the head of navigation, where Indian trails connected with rivers, at points of vantage along the slowly developing roads, and, after a time, along the inevitable routes of the iron horse.

The rise of markets thus followed on the trail of the home seeker, then the assistance of alert capital; and with these productive agents came a larger, freer life for the settlers together with the merchants and the artisans who joined them. When the factory and the store came in, the typical frontiersman was more than likely to move on toward the setting sun.

Frederic L. Paxson stresses an ever-present and significant factor keenly felt by pioneers in California and the Oregon territory, which too often has not received adequate emphasis at the hand of learned writers—namely, the condition of unusual isolation in that far country.

"The ordinary frontier communities," he points out, "were only a few miles ahead of their immediate predecessors and roads were always in process of construction in their immediate rear. Down the Ohio, and up and down the Mississippi, and their various tributaries, the communities pushed without ever getting bitterly detached. Short cuts, like Zane's Trace, or that to Natchez, could always be relied on to lessen distances, and post routes were established to serve the outposts as rapidly as these had any need for mails. But it was a different matter to follow up the emigrants to Oregon and California . . . . Congress provided a water route to San Francisco in the spring of 1849. The next ten years were years of experiment in the methods of overland communication, culminating in the overland mail, the pony express, and at last, the chartering of the Pacific railroad. Throughout the decade, no camp was so remote that it abandoned the idea of an improved route."

Under favorable conditions 100 days were consumed in making the 2,000 mile trek across the plains and into California in the "prairie schooner"—but then, conditions were never really favorable! With every passing month and every increase in our dynamic population in

the gold days, the need of improved method of travel was intensified.

The covered wagon, or "prairie schooner," is perhaps the best single symbol of the great westward movement of the virile Anglo-Saxon race as it reached out with an irresistible demand for continental boundaries for the nation.

Virginia Reed Murphy, who as a young girl was a member of the Donner Party in 1846, has left us a graphic description of the "Reed wagons" and particularly the "family wagon." "Nothing like this," she asserts, "ever started across the plains." Let her own words visualize it for us:

"It was what may be called a two-story wagon or 'Pioneer palace car,' attached to a regular immigrant train. My mother, though a young woman, was not strong and had been in delicate health for many years, yet when sorrows and dangers came she was the bravest of the brave. Grandma Keyes, who was seventy-five years of age, was an invalid, confined to her bed . . . . So the car in which she was to ride was planned to give comfort. The entrance was on the side, like that of an old-fashioned stage coach, and one stepped into a small room, as it were, in the center of the wagon. At the right and left were spring seats with comfortable high backs, where one could sit and ride with as much ease as on the seats of a Concord coach. In this little room was placed a tiny sheet-iron stove, whose pipe, running through the top of the wagon, was prevented by a circle of tin from setting fire to the canvas cover. A board about a foot wide extended over the wheels on either side the full length of the wagon, thus forming the foundation for a large and roomy second story in which were placed our beds. Under the spring seats were compartments in which were stored many articles useful for the

journey, such as well-filled work basket and a full assortment of medicines, with lint and bandages for dressing wounds . . . .

"The family wagon was drawn by four yoke of oxen, large Durham steers at the wheel. The other wagons were drawn by three yoke each. We had saddle-horses and cows, and last, but not least, my pony. He was a beauty and his name was Billy . . . .

"Many friends camped with us the first night out and my uncles traveled on for several days before bidding us a final farewell. It seemed strange to be riding in ox-teams, and we children were afraid of the oxen, thinking they could go wherever they pleased as they had no bridles . . . . I soon found that Milt, with his 'whoa,' 'haw,' and 'gee,' could make the oxen do just as he pleased."

Sufficient notice has been taken of the Santa Fé Trail in another place; the importance of the Gila route into Southern California may be indicated by the fact that during the brief space of time from April, 1848, to January, 1849, eight thousand Argonauts entered the new El Dorado by this trail.

Of all the numerous routes the grand favorite was that starting from Independence, Missouri, and proceeding across the Rocky Mountains by South Pass, by which almost as many immigrants entered California in '49 as by all other routes combined.

Every chapter of the epic of the westward movement, every picture of the hardy frontiersman sheds a light on the romantic story of California. Every other state contributes to the current of the history of the Empire State of the Pacific, to which, nevertheless, must be superadded those unique and fascinating elements that make it California.

Every conceivable kind of outfit was to be found in the

heavy covered wagon with its canvas cover stretched over stout hickory bows. In many cases an excessively high percentage of the impedimenta proved worse than useless. One member of a party of young Massachusetts men wrote home from Fort Kearney:

"We have thrown away 500 pounds of the bread and bacon and large quantities of flour and beans. Wagons were abandoned or sold for a song. We are cooking our dinner with fuel which was a brand-new wagon when we left Boston. There is more clothing on the ground at Fort Kearney than would fill the largest store in Boston. It makes a man's heart sick to see the property scattered over the ground here. Wagons are left behind as fast as they are emptied of provisions. Each man now retains two suits of clothes and 175 pounds of provisions."

Albert D. Richardson, in his *Beyond the Mississippi*, gives this graphic word picture of the emigrants as they plod their westward way:

"When crossing the great deserts to Utah or California they toil wearily along from twelve to twenty miles per day. The long-bearded, shaggy drivers, tanned to the hue of Arapahoes, look like animated pillars of earth, and seem under the perpetual sentence: 'Dust thou art and unto dust shalt thou return.' Each keeps his trusty rifle or shotgun within grasp; and at night the wagons are parked in a circle, and the cattle driven into the extemporized yard which they inclose, as a protection against Indian surprises. Eternal vigilance is the price of travel. The children of the immigrants revel in dirt and novelty, but their mothers cast eager, longing eyes toward their new homes. There is profound truth in the remark that 'plains-travel and frontier life are peculiarly severe upon women and oxen.'"

The Great American Desert

During the two decades from 1830 to 1850 American schoolboys were taught that from the bend in the Mississippi to the Stony Mountains far to the west there stretched the vast waste of territory known as the Great American Desert. Its position in North America was compared to that of the Sahara in Africa, and it occupied a similar amount of space on the schoolroom maps. John H. Beadle, whose book *The Undeveloped West*, was published in 1873, wrote of this area:

"In round numbers, a million square miles is the American Desert; a region of varying mountains, desert and rock; of prevailing drought or complete sterility, broken rarely by fertile valleys; of dead volcanoes and sandy wastes; of excessive chemicals, dust, gravel and other inorganic matter."

Reports of scant rainfall reenforced the assertion that the region could not support an agricultural population. The absence of timber and the exaggerated aridity brought added terror of the desert into the hearts of the reading American public. Said Major Stephen Long in his report: "It is a region destined by the barrenness of its soil, the inhospitable character of its climate, anb by other physical disadvantages to be the abode of perpetual desolation."

How puny, therefore, did the efforts of man seem in any contest with such powerful, forbidding Nature! Well might one say, "She would suffer no sudden highways to be thrown across her spaces, she abated not an inch of her mountains,nor compromised an inch of her desert." Behold then the miracle chapter of American history which records the narrowing limits of the desert, then the complete dispelling of the geographical myth. Behold, there *is* no Great American Desert! Instead there

is today one of the friendliest portions of our incomparable national domain. In blazing trails and making roads to the distant land of El Dorado, American pilgrims saw the intervening desert itself literally change, as by enchantment, into gold.

Vicissitudes of the Trail

In his *Pocket Guide to California* (1849) J. E. Sherwood gave minute instructions to those traveling to the gold regions via South Pass and Fort Hall. He was explicit in his warning against taking unknown "cut-offs," which proved to be a delusion and a snare to many an unfortunate Argonaut. Two of his paragraphs are illuminating:

"Let no emigrant, carrying his family with him, deviate from this path or imagine that he can find a better road. This road is the best that has yet been discovered, and to the Bay of San Francisco and to the gold region it is much the shortest. The Indians, moreover, on this route have up to the present been so friendly as to commit no acts of hostility on the emigrants. From our information we would most earnestly advise all emigrants to take this trail without deviation if they would avoid the fatal calamities which almost invariably attended those who have undertaken new routes.

"The lightest wagon that can be constructed of sufficient strength to carry 2,500 pounds is the vehicle most desirable. No wagon should be loaded over this weight, or if it is it will be certain to stall in the muddy sloughs and crossings on the prairie. This wagon can be hauled by three or four oxen or six mules; oxen are usually employed, they travel fifteen miles a day, and are less expensive than mules, and there is not so much danger of their straying and of being stolen by the Indians. Pack mules can be used by parties of men; such a party however can make a journey in less time by one month than

it can be done by wagons; they must carry with them nothing more than provisions and ammunition."

Scarcity of grass or forage of any kind and the lack of water for man and beast were among the commonest of all difficulties; in sharp contrast was the necessity suddenly thrust upon the caravan of fording streams swollen by unexpected storms, or of contriving rude rafts or some sort of ferriage for non-fordable rivers. Because of huge boulders, or fallen trees, or frightful washouts, long and hazardous detours were often the order of the day. Traveling along under every kind of weather, there were naturally all sorts of personal exposure—it has been estimated that 4,000 persons of the army of '49'ers perished from cholera alone. The gaunt animals likewise suffered from disease as well as from lameness caused by jagged rocks or frozen snow. In their ardent eagerness to reach the promised land, valuable supplies were recklessly thrown away simply to lighten the load, and the short stores of food had to be supplemented by such wild game as might be taken along the way.

Hostile Indians were always at least a potential danger to the early emigrants. To be sure, they were often more sinned against than sinning; nevertheless the most friendly and unoffending Americans could not claim complete immunity—they might even be the innocent victims of the misconduct of their less humane fellow-countrymen. On repeated occasions where there was no open attack, the Indians would commit some mischievous act, in retaliation for a grievance, real or imagined, which was calculated to harrass or annoy the travelers—such, for instance, as to throw a dead skunk into the spring where the stage would stop for a fresh water supply. On one occasion—so the report goes—they threw the bodies of those they had slain in battle into a well for the express purpose of poisoning the water. One of the commonest

risks to be encountered was that of having the live stock stolen by Indians, whose depredations seemed always imminent. The constant feeling of insecurity in the face of the near presence of possible stealthy enemies was itself tantamount to a constant menace.

Progress in the mountains especially was fraught with difficulties that to us seem wholly incredible. During those early days it can scarcely be said that there were any real roads—as we think of roads—at all. Even to speak of a trail is likely to be misleading—for many of the early trails varied greatly in width and condition, according to season and circumstance. Not uncommonly the "trail" across desert stretches might be a few feet, or it might be a mile wide—and would be more accurately described as a "route." What was the barehanded emigrant to do when, without an experienced guide, he was given conflicting advice as to the best way, hearing rumors of disasters befalling those ahead, or being urged to save precious time and weary distance by taking some newly-discovered cut-off? To try to keep in the beaten track was a course beset with uncertainty and constant solicitude; to venture forth upon some unknown cut-off was perhaps a more perilous procedure; to stand still was to invite certain disaster.

Pioneer Mothers

Too prone is the historian, while paying just tribute to the brave and indomitable character of the pioneer men, to overlook the equally brave and even more sacrificing pioneer women and mothers, who so richly deserve the highest tribute of praise that chivalrous gentlemen of softer days can pay. When Senator Stephen M. White spoke eloquent words at the Columbian Exposition in Chicago, on Admission Day, 1893, he sounded an immortal note by asking and answering a simple question

that grips the human heart: "While the Pioneer was breaking the wilderness and suffering privations, what was the Pioneer woman doing? The only church we knew was around our mothers' knees."

Those noble women of pioneer days "forsook home and kindred to follow their husbands through all trials and dangers to the unknown lands, and to assist with their labors and counsel, and with the rearing of the children of the rising generation, in the shaping and moulding of a great empire whose fame was destined to reach the uttermost parts of the earth. Like the pioneer women of the great West and Mississippi Valley," continues William L. Willis, "they have not received their meed of praise and recognition for the important part they played in empire building."

Chapter IV

CHAPTER IV

Coming of the Gringos

THE SHOULDERS of man—or more likely, of woman—were probably the earliest means of transport across the southern plains, although the Indians had been using the wild horse and the mule from New Spain long before the coming of the American to those regions. Following European practice the pack train was popular with the Spanish pioneers in the Western Hemisphere from the beginning. Incalculable values in merchandise had been transported incredible distances before the advent of the American in the West.

The lucrative trade that developed between Americans and the Spanish colonial territory of New Mexico owes its inception to the keen observation of Zebulon M. Pike who, as a prisoner, was escorted through the forbidden regions. He perceived there a market for Yankee notions—but how could those far-away lands be reached? The great distance of Santa Fé from Vera Cruz, often with no means of connection except by mule trains, together with the Hidalgo revolt then opening in Mexico, furnished a partial answer; and by 1821 the final collapse of Spanish authority broke down all barriers to trade.

Until 1827, the prevailing means of transport over the Santa Fé Trail was the pack mule. The Mexican pack

train, or *stago*, was adopted by the Americans almost in its entirety, the usual caravan numbering anywhere from fifty to two hundred animals and creeping along at twelve to fifteen miles a day. The muleteers, who enjoyed the munificent salary of five dollars a month, were kept busy with changing the packs and the routine of the trail.

The trading expedition led by Captain William Becknell, overland from Frankland, Missouri, in 1821, marks the actual beginning of an important commerce with New Mexico by freight wagons. Becknell's was a profitable venture, opening a rich new market; the next year by taking three wagons through to Santa Fé, he demonstrated the feasibility of traversing the so-called American Desert, and from 1822 the wagon trains entered New Mexico annually. In the course of a few years more the pack train was virtually abandoned.

The typical wagon of the train had a capacity of approximately one and a half tons and was drawn by eight mules or oxen, the latter coming to be preferred because of their greater strength. Later, wagons of almost double capacity were used and the term "prairie schooner" came quite aptly to be applied to them—an expression that has won for itself a permanent place in the literature of the plain and the frontier.

With the introduction of the improved "prairie schooner," the distance traversed daily was increased to 17 or 18 miles. A typical caravan contained 26 wagons, each drawn by five yoke of oxen or a span of ten mules and bearing a load of from 5,000 to 7,000 pounds. In the year 1846, 500 men, handling 375 wagons, 1,700 mules, and 2,000 oxen were employed along the trail. By 1866, the traders' wagons in use numbered as high as 3,000. The largest train of all was composed of 800 army wagons used in carrying supplies for General George A. Custer's

campaign in 1868. Such a train would surely look like an unending procession—terrible as an army with banners!

In 1830, the old Spanish Trail from Santa Fé into Southern California—really an extension of the Santa Fé Trail—was established by William Wolfskill. It took a northwesterly route to Green River, thence across the Wasatch Mountains to Sevier River and down Virgin River, and finally entered the coast region through the Tehachapi and Cajon passes. For many years it was a much-used entrance into California. Emigrants destined for California previous to 1841 abandoned their wagons at Santa Fé, proceeding on mule-back or by saddle-horse along the old Spanish trail.

By the later 'fifties most of the flavor of romance that had been associated with the trail was lost. "In its place," says Paxson, "the slow-moving cloud of dust and the rumble of the wheels, the cracking of the whips and the profane admonitions of the drivers to their mules indicated a growing and laborous traffic." With the completion of the Atchison, Topeka and Santa Fé Railroad as far as the city of Santa Fé, in 1880, the historic trail, along which in certain locations the deep cuts made by the wheels of innumerable coaches and wagons may even yet be traced, became a thing of the silent but unforgettable past.

First Wagons in California

The first wheeled wagons to be brought into the present borders of California by Americans were those of the Chiles-Walker party of 1843. However, these never reached the settled portions of the territory, for in the extremely inhospitable region of Walker River and Owens Lake the party was compelled—as earlier parties had been compelled to do still farther back on the trail—

to abandon them, together with a large part of their scanty belongings.

The first overland wagons actually to complete the trip into the Great Valley of California were those belonging to the Stevens company, often referred to as the Murphy company, in 1844. This company was probably the first to cross the Sierra Nevada along the Truckee and Bear rivers, taking in a general way the route later followed by emigrants by the thousand, and finally by the Central Pacific Railroad. These wagons, according to John Bidwell, who had been in California since 1841, were left in the mountains, under the snow, till the following spring, when Elisha Stevens and others returned to them and brought some of them down the western slope into the Sacramento Valley. The experiences of the Stevens-Murphy company are illustrative of the terrible hardships of many of the heroic pathbreakers.

Brief excerpts from Judge Walter Van Dyke's narrative of his trip overland to Los Angeles in 1849-50 by the Salt Lake Trail will assist the imagination in visualizing the entrance of a considerable number of Argonauts into California over a route by no means so well known or so frequently referred to as the well-trodden trails to the north.

The fact that most of the scanty feed along the main road had been consumed by preceding emigrant trains occasioned many an added and weary mile in search of pasture, with the consequent irksome delays. It was October 8 when Van Dyke arrived at Salt Lake City. Realistic glimpses of some of the events and conditions that followed are best afforded by employing extracts from his own narrative:

"Owing to the lateness of the season and from accounts of some Mormons returned from the gold mines on the American River, it was evident that before we could

reach the foot of the Sierra Nevada it would be impossible to cross with any degree of safety. The fate of the Donner party was a warning against any such foolhardy attempt in the winter season. The great body of the overland emigrants by the South Pass route preceded us, going either by the Humboldt or Fort Hall, and most of them had already reached their destination in the Land of Gold. While we were thus delayed at Salt Lake, undetermined whether to remain over winter or attempt a southern route, some Missouri traders . . . were preparing to take their live stock and freight wagons to Southern California. We concluded to join them. A Mormon, Captain Jefferson Hunt, who had just returned from San Bernardino, where they had located a colony, was engaged as a guide. We left Salt Lake the 3rd of November, 1849, pursuing a southerly and southwesterly direction along the foot of the Wasatch Mountains."

Glimpses From a Personal Narrative

By the indulgence of the kind reader, the author craves the privilege of disclosing touches of a more personal and intimate view of the great trek to California by introducing segments of the story of his own mother's early life. Years afterward she was prevailed upon to write out her recollections of that trip across the plains by ox team in 1854, and these were finally published in *Overland Monthly*.

First of all she tells of her pioneer parents and the conditions surrounding her girlhood home. "When my parents were married," she wrote, "father was twenty-two and mother nineteen. Father came twenty miles on horseback with his company of family relatives and friends. On arriving at mother's home, they all rode around the house three times for good cheer, according to the style of the day. On these long rides it was custom-

ary for the young men to carry the girls' collarettes in their high silk hats, so they would not get mussed up.

"The day after the wedding they, with their company, went to my father's home for the Infair. According to previous arrangement, they started after just one week to emigrate to Indiana. This was a wedding trip that some of our young folks wouldn't like very well nowadays—especially to go as my parents went, with their own team, taking in the wagon all they possessed, except their five horses and the cow named 'Pink.' I can remember hearing mother calling, 'Suke-Pink'; and the cow would come home from as far as she could hear the call, out of the thick woods.

"When they reached their journey's end, they settled in the beech and maple timber that was so thick they had to cut down trees and clear out a spot big enough on which to build their little log house of one room. But since they were married in June and had started at once, the house was built before winter set in."

On account of her mother's rheumatism and chills and fever, brought on by exposure and hard work, they concluded to move on from Indiana to Illinois. This is the way they moved: "The five-horse team was hitched on to the great covered wagon, and old 'Pink,' with her tinkling bell and playful progeny was made ready for another journey. Father and mother had found two little girls in the timber of Indiana: my sister, Sarah, and I were born there, Hoosiers; and sometimes I feel glad, even proud, that I was born a sturdy, hardy Hoosier. I was then three years old, and Sarah was six weeks old—pretty young to be an emigrant to a new country, to be one of the pioneers!"

Years later, in 1849, her father, after showing strong and unmistakable symptoms, "was taken with the California fever." But her mother "would not be persuaded

to undertake such a journey." In the meantime, she had married and become the mother of two baby boys. But unfortunately the young father had contracted tubercular trouble. Finally, on being admonished that the only chance of saving her husband's life was to take him to California, with its mild climate, she decided "to venture all and make the start with him." Then her sister Sarah and her husband decided to join them, and last of all her mother relented and consented to make the trip—"father's fever never having abated"—"providing the old homestead could be kept unencumbered to return to in case we should not like California." This was early in the year 1854.

"All went to work with a will to get ready for the great journey. Father began buying oxen and having new wagons made, good and strong. Times were very lively with us all that winter, selling home effects and buying our outfit. We had to part with all of our old and dear keepsakes, mementoes of our childhood, for we could take only just what we would need on the way.

"My uncle Joseph and family, who had gone to California in '49, and returned to Illinois, were now ready for their second journey. Father's sister, Mrs. Nellie Troxel, and her family, with neighbors and friends, made up a party and started on with teams and live stock about the middle of March, even before the snow and ice had gone. But never mind that—they were on their way to the great new country!"

The main party went by steamboat from Peoria down the Illinois to the Mississippi, and on to St. Louis, then proceeded up the Missouri to Kainsville. Because the river was very low, much difficulty was experienced from mud, sand-bars and snags, finally necessitating a complete transfer of cargo to another steamer. At Kainsville they were met by the advance guard. After a few days'

final preparation they crossed the Missouri, and the "long, hard camping trip across the Great Plains was begun." The interesting narrative continues: "There were in our train besides our immediate family, which included my brothers John, Joseph and Daniel, and my sisters, Sarah and Lizzie, and those of Uncle Joseph Zumwalt and Aunt Nellie Troxel, neighbors and friends occupying in all twenty-five wagons and teams, nearly all of them ox teams of five yoke for each wagon.

"When we camped at night we would drive our wagons so they would form a circle, and by putting the pole, or tongue, of each wagon upon the back axle-tree of the next, all around the circle, we had a pretty good corral.

"But our large company could not remain together long; so much stock required more grass than could be found in one place near the road, for each family had besides the teams more or less loose stock, cows, calves, etc.

"Some members of the company would become impatient and wish to hurry along as fast as their teams could go; after a few days we would usually overtake them, as they would be stopped by the roadside to rest their cattle. We always went along slowly but steadily, stopping half a day each week, whenever we possibly could, to do our washing."

"Our wagons were big and strong, and had stout bows, covered with thick, white drilling; so there was a nice room in each wagon, as everything was clean and fresh and new. Two strong iron hooks were fastened on the top of each side of our wagon-box, and a pole (called a spring-pole) laid in these hooks. Boards were laid across from pole to pole, thus making a spring bed that was very comfortable for my sick husband, after a good feather-bed and plenty of covering were put in place. We had but one wagon of our own, with five yoke of oxen and two cows.

"Most of the emigrant wagons had the names of the owners, place where they were from, and where they were bound, marked in large letters on the outside of the cover."

"We called it a good day's drive if we went twenty miles, and a big drive if we went twenty-five miles; but in the mountains, and where we had streams to cross, we worked hard many times and went only five miles. I think I must have walked half of the way to California. Many times I did not get into the wagon to ride all day. Oh, the roads we passed over were terrible!

"In some places in the mountains the men had to let the wagons down the deep ditches with chains; in other places it would take ten yoke of oxen, or more, to pull a wagon up the steep, slippery grades. But parts of our road were just beautiful, being level as a floor and bordered with carpets of green grass intermingled with flowers of every color."

The party was uniformly treated with respect by the Indians, though they were constantly hearing stories of how a good many of the emigrants treated the Indians with anything but kindness. To be sure, some of the travelers of that year did have trouble, and there were occasional threats of taking revenge on the following trains; but the practice of the Golden Rule seemed to help them get through in safety. Continuing the narrative:

"As soon as we went into camp, if any Indians were in hearing distance, they would come to see us. They climbed up and looked into our wagons with great curiosity; yes, and astonishment, too, when they saw the display of guns and ammunition we had. We always had these hanging rather artistically on the inside of the wagon cover, so they would be the first thing to attract visitors' attention, and they always looked sober at sight of them.

"At night we placed our weapons of defense by the sides of our beds in our tents. I claimed the ax for mine, and always saw that it was close to me; but I never had occasion to use it on an Indian."

"One night in particular, more than any other, we expected to be killed or taken as captives. (Imagine for one moment what a feeling that is!) The Indians formed in line on both sides of our camp. It was very dark, but when they built fires on both sides, we knew they were in line. Then they set up their terrible war-whoop, and kept it up until late into the night. Greatly frightened, we made ready for an attack. But fortunately they did not molest us at all, except as we suffered in our minds from our fright. That night we kept ample guard, and what little sleep we did get we took with our hands on our weapons. Early the next morning we moved on quietly as if nothing had happened.

"We had music in camp many an evening, some of the company having brought their musical instruments, such as violins or guitars; and when not too tired we would sing hymns of praise. The young people had a good time and a great deal of fun. They were free from care, and could ride on horseback or in the wagons all they pleased, or could walk along the road together.

"We managed to sew enough to keep our clothes in order while the oxen were poking along where the road was level. Some worked at crocheting, or knitting a little, occasionally, just for pastime. We had nothing to read but our Bibles and a few hymn books."

"While the young folk were having their good times, some of the mothers were giving birth to their babes: three babies were born in our company that summer. My cousin Emily Ibe (later Emily West of Dixon) gave birth to a son in Utah, forty miles north of Great Salt Lake, one evening; and the next morning she traveled on

until noon, when a stop was made, and another child was born—this time Susan Longmire was the mother made happy by the advent of little Ellen. The third birth occurred after we had separated from Uncle Joseph's family; the wife of my cousin Jacob Zumwalt gave birth to a daughter while traveling in the Sierra Nevada. To this baby they gave the name Alice Nevada. In every instance, after the birth, we traveled right along the next day, mothers and babes with the rest of us.

"We had an unusual commotion one afternoon and night, near the fork of the Sweetwater River. My youngest sister, Lizzie, then twelve years old, was lost. She had started off in search of firewood and completely lost her bearings. Finally, she found the road and walked back on it five miles, when she came to a camp of emigrants. Two of them brought her into our excited camp about eleven o'clock at night. My mother was nearly beside herself when they brought her in all safe and sound, but very tired.

"Day after day we traveled along, slowly, very slowly. The roads were almost impassable; the days were hot and the nights freezing cold. Near the summit of the Sierras we came to the snow; it was the month of August."

Then it was that the narrator was called upon to suffer her greatest bereavement—her sick husband, whose improved condition had inspired fresh hope for his complete recovery, took fresh cold in the High Sierra, grew rapidly worse, and gave up his brave spirit at Twin Lakes—"so he died in California." The young widow was forced to face life, single-handed with her two little boys, in those pioneer days. In two or three days more the beautiful valley of the Cosumnes was reached, then the thriving city of Sacramento, and a little later, with parents and relatives, life in California became a reality.

Night Travel on the Desert

William Audley Maxwell, in his *Crossing the Plains: Days of '57*, presents many vivid pictures in what he assures us is an accurate narrative of emigrant travel to California by the ox-team method. In the Black Hills Region the party was confronted with the problem of getting the wagons down a cliff or wall to enter the beautiful valley that lay so inviting below. After diligent searching, a narrow ravine was found through which the animals might pass, but impassable for the wagons.

"The teams were unhitched from the wagons, the yokes taken off the oxen, and all the cattle, horses and mules were driven through the inclined tunnel into the coveted valley. The women and children clambered down, taking with them what they could of the camp things, for immediate use, and soon were quite 'at home' in the valley, making free use of the little creek, for whatever purposes a little creek of pure, cold, fresh water is good for a lot of thirsty, dust-covered wayfarers.

"The puzzle of getting the wagons down next engrossed the attention of our best engineers. The proposition to unpack the lading, take the wagons apart, and carry all down by hand, appeared for a time to be the only feasible plan. Captain John, however, suggested procuring rope or chain about one hundred feet in length, for use in lowering the wagons, one at a time, through the first-mentioned passage. Sufficient rope was brought, one end fastened to the rear axle of a wagon, the other end turned around a dwarf pine tree at the top of the bluff; two men managed the rope, preventing too rapid descent at the steeper places, while others guided the wheels over the stones, and the wagon was lowered through the crevice, with little damage. Thus, one by

one, all the wagons were taken into the valley before the sun set."

The same writer gives us a glimpse of night travel on the desert, a subject referred to by but few pioneers. After leaving the Sink of the Humboldt the party entered upon a stretch of many miles of wholly desert country, absolutely devoid of vegetation. But the prospect of reaching the Truckee River buoyed their lagging hopes; and to avoid the fierce, almost intolerable heat of day as far as possible, the start was deferred till mid-afternoon and travel continued throughout the night.

"The impressions of that night ride were most extraordinary. As the sun sank, and twilight shaded into night, the atmosphere was filled with a hazy dimness; not merely fog, nor smoke, nor yet a pall of suspended dust, but rather what one might expect in a blending of those three. Only a tinge of moonlight from above softened the dull hue. It was not darkness as night usually is dark. It was an impenetrable, opaque narrowing of the horizon, and closing in of the heavens above us, which, as we advanced, constantly shifted its boundary, retaining us still in the center of the great amphitheater of half-night. We could see one another, but beyond or above the encompassing veil all was mystery, even greater mystery than mere darkness. No moon nor stars visible; nothing visible but just part of ourselves, and ours.

"As the night merged into morning, the sunlight gradually dispelled the mantle of gloom from our immediate presence; but still we could not see out. As if enclosed in a great moving pavilion, on we went, guided only by the tracks of those who had gone before.

"In the after part of the night the loose cattle, having been for two nights and a day without water, and instinctively expecting an opportunity to drink, quickened

their pace, passing the wagons; the stronger ones outgoing the weaker, till the drove was strung out two or three miles in length along the sandy trail . . . .

"We went ahead during all that long morning, following what was surely, to us, the longest night that ever happened, before or since. Most of the other members of our party were in the wagons, and they, except the drivers, slept soundly, rocked gently, very gently, by the slow grinding of the wheels in the soft, deep sand. But Luke and I, on our little mules, must keep awake, and alert as possible, in readiness to hold back the cattle from taking too much water.

"From midnight to daybreak seemed a period amounting to entire days and nights; from dawn till sunrise, an epoch; and from sunrise to the time of reaching the river, as a period that would have no end.

"As the sun finally rose behind us, the faintest adumbration of the nearest ridges of the Sierras was discerned, in a dim, blue scroll across the western horizon, far ahead—how far it was useless to guess; and, later, patches of snow about the peaks.

"The minutes were as hours; and their passing tantalized us, noting how the dim view grew so very slowly into hazy outlines of mountains, and finally of treetops . . . .

"Half awake, we dreamed of water, green trees, and fragrant flowers. Rising hope, anon, took the place of long-deferred fruition, and we forgot for a moment how hard the pull was; till, with returning consciousness of thirst and painful drowsiness, we saw the landscape ahead presented still another, and another line of sand-dunes yet to be overcome.

"Luke and I reached the Truckee at nine o'clock in the forenoon, just ahead of the vanguard of the cattle, and about three miles in advance of the foremost wagon.

"We tried to regulate the cattle's consumption of water, but did not prevent their drinking all they could hold. Ten men, on ten mules, could not have stopped one cow from plunging into that river, once she got sight of it, and remaining as long as she desired. We could not even prevent the mules we rode from rushing into it—that cold, rippling Truckee. Yet our elders had sent us two boys to hold back a hundred cattle, and make them drink in installments—in homeopathic doses, for their stomachs' sake.

"They dashed into the stream *en masse*; and seeing the futility of interfering, we gladly joined the cattle, in the first good, long, cool swallow of clear, clean water, within a period of six weeks."

Stage-coaching

Albert D. Richardson, in his fascinating book *Beyond the Mississippi* (1867), gives us many a vivacious picture of Western life and adds much of reality to the scenes he depicts. Note, for example, his description of the stage coach out of Leavenworth:

"May 25 [1859]—I left Leavenworth by the overland mail carriage built in Concord, New Hampshire, known as the Concord wagon. In a dozen localities its manufacture is imitated with more or less success but never equaled. The little capital of the Granite State alone has the art of making a vehicle which like the one-hoss shay, 'don't break down, but only wears out.' It is covered with duck or canvas, the driver sitting in front, at a slight elevation above the passengers. Bearing no weight upon the roof, it is less top-heavy than the old-fashioned stage-coach for mud-holes and mountain-sides, where to preserve the center of gravity becomes, with Falstaff's instinct, 'a great matter.' Like human travelers on life's highway, it goes best under a heavy load. Empty, it

jolts and pitches like a ship in a raging sea; filled with passengers and balanced by a proper distribution of baggage in the 'boot' behind, and under the driver's feet before, its motion is easy and elastic. Excelling every other in durability and strength, this hack is used all over our continent and throughout South America.

"Two coaches, each drawn by four mules, leave Leavenworth daily and make the entire trip together, for protection in case of danger from Indians. A crowd gathered in front of the Planters' House to see our equipages start. Amid confused ejaculations of, 'Good-by, old boy.' 'Write as soon as you get there.' 'Better have your hair cut, so that the Arapahoes can't scalp you.' 'Tell John to send me an ounce of dust.' 'Be sure and give Smith that letter from his wife.' 'Do write the facts about the gold,' the whips cracked and the two stages rolled merrily away."

Other realistic glimpses regarding emigrant wagons and their occupants are not lacking—how they became stalled in the mud, the difficulties presented by swollen streams, the actual overturn of the coach, and so forth. He continues:

"Some of the countless emigrants on the road have cows yoked with oxen, serving as motive power by day and giving milk at night. We passed one two-wheeled cart drawn by a horse in the shafts, with a yoke of oxen before him.

"With a staunch coach well loaded with human freight and drawn by six seasoned mountain horses driven by that famous Jehu, Hank Monk, the ride down the mountain slopes of the Sierra to Placerville and out into the Sacramento Valley represented staging at its best." Here are the words of the contemporary:

"Down the narrow, winding shelf-road our horses went leaping at a sharp gallop. It is a thrilling ride, for

at many points, a divergence of six inches from the track would send the coach rolling from five hundred to a thousand feet down the mountain, into the foaming stream bed of some yawning canyon. Here is the ideal of staging. For weeks afterward, one's blood bounds at the memory of its whirl and rush. Twenty-four on the coach, with six horses, galloping down the Sierra Nevadas, along a winding, narrow, dizzy road, at twelve miles an hour! It is as swift as Sheridan's Ride and as stirring as the Charge of the Six Hundred.

"The track was half covered with great California freight wagons. One carries from six to ten tons, and is drawn by ten or twelve mules, each bearing on his saddle four tinkling bells. Very striking was the skill of our driver, as we rolled on our winding way, among these long teams and ponderous wagons. With perfect confidence and nicest calculation, he whirled us around sharp corners and through gaps between the freighters and the precipice, barely wide enough for our wheels. With him, driving long ago ceased to be an experimental accomplishment, and became one of the exact sciences."

In her delightful book, *Incidents on Land and Water*, which constitutes a narrative of her own experiences of four years on the Pacific Coast, beginning in the spring of 1851, Mrs. D. B. Bates gives us this interesting glimpse at stage-coaching in California:

"In the first place, the coaches are built of the strongest materials to be obtained, and are sufficiently large to carry from twenty to thirty persons. They are drawn by six large, beautiful horses. In the dry season, when the rivers are low, large boats do not run to Marysville, and most of the travel is effected by stages. I once rode to Sacramento and back in one of those six-horse coaches, when the passengers, inside and out, numbered twenty-eight. The thermometer stood at 110 degrees, and the

dust was so dense as to almost suffocate one. We were obliged to *unpack* ourselves, and walk over all the bridges on the way; and then, so frail were these structures, that they trembled and swayed as the empty coach was being drawn over.

"By the time you arrive at the end of your journey, your eyes, nose, and mouth are filled with dust, as well as your clothes. One day's ride ruins the clothes; but, if a person is blessed with a strong constitution, he may possibly survive several consecutive days' riding in those crowded coaches. The roads between Marysville and Sacramento are very level, it being a vast plain the whole way.

"Journeying through the mountainous sections of the country, in coaches, is perfectly awful. The passengers are obliged to alight, and push behind the vehicle, to assist the horses up every hill, and, when they arrive at the summit, chain the wheels, all get in, and ride to the base of the next mountain, in danger every moment of being overturned, and having their necks broken. For thus working their passages they have to pay exorbitant fares."

Such a luxury as a good road in any modern sense was not known in California in early days. Note, for example, the conditions at San José, the boasted seat of the first state legislature. During the rainy season the roads were "exceedingly bad in every direction." Neither the city nor the county was in financial condition to work them. The road to Alviso was said to be very extensive in width; in fact, says Frederic Hall, "all the roads were, as there were no fences. It was fortunate that travelers had so much territory to roam over. No one track could have been traveled long, as the ground was so soft that the wheels soon sank to the hubs." In April, 1850, a tri-weekly stage service was established to San Francisco,

a distance of about forty-five miles, the schedule time being nine hours, and the regular fare being $32.00 (two ounces)—later reduced to $16.00, then to $10.00. On account of the mud at certain places, the passengers did not want for "a little pedestrian exercise." During the following winter the stages were withdrawn because of the condition of the road, and passengers and mail went via Alviso, where the stages connected with two steamboats. Persons traveling by their own conveyances not infrequently got lost on the road to San Francisco.

The beautiful avenue of willows linking the early Pueblo de San José with the Mission of Santa Clara, three miles distant, was one of the most valuable improvements left by the Franciscan Fathers. It had been started in 1799, two hundred Indians being employed "to plant, water, and protect the trees until they had received sufficient strength to withstand the nibblings and gnawings which the cattle might chance to give them." This road, now a broad boulevard which is a delight to thousands of motorists—although the willows have long since disappeared—was in the 'fifties "the best and most important in the county; yet it was quite impassable during the wet months, and a circuit of five or six miles was often made to reach Santa Clara."

At the corner of Market and Santa Clara streets in San José there was a great puddle of water called "Hoppe Pond," while another low place was found at the intersection of First and Santa Clara streets—the center of the modern city.

In Southern California, as well as in the north, the stage, as an improved means of transportation when compared with the lumbering carreta, began to come into use in the early 'fifties. First, there was Gregory's Great Atlantic and Pacific Express, which began carrying the eastern mails to Los Angeles as early as 1851. It requires

a vivid imagination to visualize the fact that Los Angeles and San Francisco were actually connected by a semi-monthly run by stage coach! A Pony Express was established between Los Angeles and Fort Smith, Arkansas, in 1860. In 1867 Phineas Banning established a stage line between Los Angeles and Wilmington, and about the same time another line made connection with Tucson, Arizona, while a daily schedule with San Francisco was put into operation. If improved transportation facilities appear to have been tardily introduced into Southern California, a partial explanation is found in the slow growth in population in comparison with the great rush to the mining districts in the north. Thus Los Angeles was credited with but 1,610 souls in 1850, and full twenty years later boasted a population that was well under 6,000.

Chapter V

CHAPTER V

Forerunners of the Railway

THE ARRIVAL of the first mail in San Francisco by the Butterfield overland coach one autumn day in 1858 was the signal for an enthusiastic celebration and great popular rejoicing. The *Bulletin* of October 16 presents this lively picture of the stirring event:

"At a quarter after four o'clock the coach turned from Market into Montgomery street. The driver blew his horn and cracked his whip; at which the horses, four in number, almost seemed to partake of his enthusiasm, and dashed ahead at a clattering pace, and the dust flew from the glowing wheels. At the same time a shout was raised, that ran with the rapidity of an electric flash along Montgomery Street, which throughout its length was crowded by an excited populace. As the coach dashed along through the crowds, the hats of the spectators were whirled in the air and the hurrah was repeated from a thousand throats, responsive to which, the driver, the lion of the occasion, doffed his weather-beaten old slouch, and in uncovered dignity, like the victor of an old Olympic race, guided his foaming steeds towards the Post Office."

A month earlier the first mail coaches had left St. Louis

and San Francisco simultaneously. The east-bound coach, carrying a post-office inspector and five additional passengers, covered the entire distance in twenty-four days, eighteen hours, and twenty-six minutes actual time. John Butterfield, the contractor, felt honored to receive from President Buchanan the following felicitous telegraphic message:

"I cordially congratulate you upon the result. It is a glorious triumph for civilization and the Union. Settlements will soon follow the course of the road, and the East and West will be bound together by a chain of living Americans which can never be broken."

Butterfield and his associates had been successful, among nine bidders, in offering performance of services calling for "good four-horse coaches or spring wagons, suitable for the conveyance of passengers, as well as the safety and security of the mails." Nevertheless when the Southern Postmaster-general awarded the six-year contract for a semi-weekly mail at $600,000 per year, over a route for which not a single bid had been received, a storm of criticism arose. The route specified in the contract runs—

" . . . from St. Louis, Missouri, and from Memphis, Tennessee, converging at Little Rock, Arkansas; thence via Preston, Texas, or as nearly so as may be found advisable, to the best point of crossing the Rio Grande, above El Paso, and not far from Fort Fillmore; thence, along the new road being opened and constructed under the direction of the Secretary of the Interior, to Fort Yuma, California; thence, through the best passes and along the best valleys for safe and expeditious staging, to San Francisco."

Consider that initial trip by stage coach to San Francisco, whose successful termination the *Bulletin* so graphically described. Here is the official announcement:

"Sept. 16. The first overland mail for San Francisco,

California, by way of Jefferson City and Springfield, Mo., Fort Smith, Ark., and Preston, Texas, takes its departure this morning from St. Louis Post Office at 7 o'clock. It goes by the way of the Pacific railroad to Tipton, from whence it will be conveyed in coaches and spring wagons, the whole of the distance. Mr. J. Butterfield, who has given his personal supervision to the work of getting this mail fairly underway in all of its parts, goes out with it to Springfield."

The stage was expected to maintain an average speed of five miles an hour, day and night, which necessitated having fresh teams of horses in waiting, along much of the way, at approximately ten-mile intervals.

The going was beset with all manner of difficulties. The undulating plain, the rough mountain pass, the deep mud-hole and the treacherous quicksand, the swollen streams to ford, followed by long arid stretches with scant water supply; all these presented their own peculiar and very real obstacles. During periods when the Indians were hostile it was found necessary to maintain guards to defend the posts or stations. For much of the distance progress could not be made at a gait faster than a walk; but occasional smooth stretches permitted the horses to be urged to a gallop.

That the overland became one of the most popular institutions in the Far West is attested by the fact that by 1860 it was carrying more letters than were sent by the ocean steamers. The schedule came to be so regular that the inhabitants knew "almost the hour and the minute when the welcome sound of the post horn [would] reach them."

While the establishment of the Butterfield mail signalized the inauguration of better transportation and communication for clamorous California, we must not forget that the overland coach itself represented a culmination,

or fruition, of many still earlier efforts and enterprises—however spasmodic and inadequate, and sometimes grotesque—to put the Golden State in proper connection with the East, as well as to develop local facilities within the great new commonwealth itself.

After the conquest in 1846 military authorities inaugurated a crude but fairly regular sort of service between their posts, of which the public could avail itself. The contemporary newspapers (*California Star* and *Californian*) in 1847 describe the bi-monthly service between the north (San Francisco and Monterey) and San Diego: two soldier messengers met halfway and exchanged mails, each requiring a fortnight for going and returning. Early in 1849 a semi-monthly connection was extended to Sutter's Fort (Sacramento), Stockton, and Sonoma.

Before the coming of the Americans, land communication was usually by the familiar Mexican pack train of mules and the saddle-horse; and there was nothing more closely resembling roads than a few circuitous trails. These multiplied rapidly under the hand of the Americans, and regular roads quickly began to make their appearance. Private companies as well as public authorities, perceiving the urgent need, entered upon construction work, and within a few years a road extended to the remote northern border. The early ferries, always crude and sometimes dangerous, rapidly gave place to bridges. By the end of the "flush times," in 1856, there were well beyond a hundred bridges in the state, costing over half a million dollars.

The Panama mail line was opened by the arrival at San Francisco of the first steamer, in February, 1849. Two years later the monthly contract was extended to a semi-monthly service. Still later the transport of mails across the Isthmus was entrusted to the newly completed Panama Railroad. After the completion of this railway in

January, 1855, the quickest regular means of communication between California and the Atlantic states was by way of the Isthmus. This road, which had been started as early as 1850, had as its terminal points Aspinwall and Panama, forty-eight miles apart. Even with the use of larger and swifter steamers—a marked improvement over the Pacific Mail steamers of '49—the entire trip from New York to San Francisco, 5,700 miles, still required a period of twenty-five days.

The condition of California's isolation from American centers—though it had afforded shelter and protection for the "Splendid Idle Forties" in that Arcadian land—argued cogently and irrefutably for better transportation and communication, which must be here, as everywhere, transforming in their influence. The irresistible pressure of economic forces, in turn, must sooner or later be recognized and heeded in political and international counsels. Progress in the arts of civilization has through the ages followed the course of transportation. In America the postal service has been a potent means of binding the pioneer and the frontiersman to their government and home in the East.

For the first few years following the American conquest the overland route to California was deemed impracticable for through postal service; the speed and convenience of the ocean steamer, then coming into use, gave it a decided advantage. But the great trek was on, —there was no stopping it; and whithersoever Americans set their faces to go, there they may be depended on to look for letters from back home. Therefore, there was agitation for overland mail service as well as for passenger and express transportation during that early period, although it must be said that the advocates met with little encouragement from the government. As a matter of fact, it was several years after the admission of Cali-

fornia in 1850 before the government mail service was established beyond the inter-mountain region. At Washington the belief long prevailed that a land route to the coast was impracticable. Nevertheless, emigration increased apace—the demand for mail did not abate.

However, private initiative, as is usually the case, was less conservative. A few days before the great gold discovery at Coloma the *California Star*, the second newspaper in California, carried an advertisement announcing a letter express overland to Independence, Missouri, the starting point of innumerable westbound caravans. Scarcely had the service been begun before it was disrupted by the gold excitement. The following year a second enterprise was launched, combining a passenger line with the overland mail, but unanticipated difficulties cut short its career. A few months later the Great Salt Lake Carrying Company was organized at Salt Lake City for the purpose of transporting freight as well as passengers to California. The passenger fare to Sutter's Fort was $300 and the tariff on merchandise was $250 per ton.

In the meantime Kit Carson had been dispatched by the military authorities with what is claimed as the first United States mail to be carried overland from the Pacific to the Atlantic (April 17, 1848) and four months later the Postmaster-general had been directed to establish post offices at San Diego, Monterey, San Francisco, and other points. Furthermore, there was a comprehensive project, sponsored by William Bayard, to have Congress authorize the construction of a post road eighteen feet wide from Fort Smith, Arkansas, to San Diego; "to put twenty men and sixty horses on every thirty miles of the road; to have relays at every ten to fifteen miles, with fifty armed men at each relay through the Apache country for the protection of passengers and travelers; to carry the mail each way in four-horse coaches"; together with

other details as to financing and operation. This ambitious and very expensive project apparently came to naught. Several years were yet to elapse before the agitation in Washington for a weekly mail service for the fabulously growing California population was to bear fruit, while the clamor for a Pacific railroad waxed and waned and waxed again and the Pony Express was in the offing.

A number of early lines of communication had been established between the Missouri frontier and settlements to the westward. In 1849, the government had contracted for a monthly mail from Independence to Salt Lake City. Even earlier than that, Independence had been connected with Santa Fé. In 1851, Absalom Woodward and George Chorpenning contracted to carry the mail on monthly service from Salt Lake City around the northern end of the Lake, through the Humboldt and Carson River sinks, across the Sierra at Carson Cañon, and down through Placerville and Folsom to Sacramento, a total distance of approximately 910 miles. The mail-bags were carried on the backs of mules, the distance being easily covered, in good weather, in thirty days; but during the winter months such a service was hardly to be thought of.

Chorpenning's story of carrying the first mail east, leaving Sacramento May 1, 1851, illustrates the colossal difficulties often encountered in crossing the mountains. His men "had to beat down the snow with wooden mauls to open a trail for their animals over the Sierras." For more than a fortnight they were compelled to fight their way through the snow. The deep snow forced the December and January mails of the following season to return, and the February mail required sixty days in reaching Salt Lake City. Snow-shoes were requisitioned

frequently, the Carson Valley post office being supplied, in season, by the regular carrier on snow-shoes.

The irregularity and occasional interruption of the service—in our day well understood and duly evaluated —were not appreciated in Washington at the time. Chorpenning's contract was annulled and a new contract was entered into with W. L. Blanchard of California. After repairing to Washington and presenting his case before the new Postmaster-general personally, however, Chorpenning was reinstated, with permission to carry the mail via San Pedro, in Southern California, during the winter months.

For several years, in the early 'fifties, the California-Utah mail was carried (except during winter months) by the old emigrant route. Starting at Sacramento this route passed through Folsom, Placerville, Hope Valley, Carson Valley, along the Humboldt River, into southern Idaho, thence around the north side of Great Salt Lake to Salt Lake City. In 1854, the route was changed to run to San Diego over the Mormon Trail, and Chorpenning was again awarded the contract, on the basis of $12,500 per year compensation, to carry the mail monthly each way, in twenty-eight day runs. This service continued four years, with fair regularity, usually by the use of saddle-horses, a wagon being used occasionally. The trip on horseback was often accomplished in twenty days or less. Because of heavy expenses and diminishing immigration, the contractor again proceeded to Washington and was successful in securing at the hands of Congress a generous relief act which, when supplemented by an additional allowance from the Postmaster-general, afforded ample compensation. The fascinating story of the overland mail cannot be truthfully told without prominent mention of the name of George Chorpenning. It is a story that deals in the processes of empire building.

"The opening of a post office in some remote section of the West," says Le Roy R. Hafen, "is proof sufficient of the presence of a pioneer. The establishment of a post road is the official marking of the pioneer trail."

During the flush days in California, Sacramento became the center for numerous stage companies. That was the starting point, in 1853, for a dozen lines operating to inland points, each with its quota of from three to twelve coaches, with needed relays and from 35 to 150 horses each. One of the most important was the weekly line from Placerville to Salt Lake City and connecting with the overland mail to St. Joseph. It was the proud boast of this service that eastern letters were delivered a week earlier than by ocean transit.

A bill was introduced in the United States Senate in 1855 to authorize the Postmaster-general to contract for the carrying of an expedited mail, in four-horse coaches, on a weekly schedule, from St. Louis to San Francisco. It was not till two years later that this bill was passed, and the system was still further delayed in being put into full operation.

Early in 1856 an important meeting was held in the Mormon Tabernacle, at Salt Lake City, for the purpose of launching a movement for the establishment of a great transportation line between the Missouri River and the Pacific. Backed by the generous proffers of Brigham Young, the project, vigorously urged by Hiram Kimball, who was successful in securing the contract, was rapidly advanced and work well begun, when, alas! operations were suddenly terminated by the heavy winter of 1856-7, after a single mail had gone east from Utah. The further activities of the Mormons, their heavy influx by handcart and ox team, and the "Utah War," form scenes in a drama full of human interest.

As the Pacific Railroad question was becoming so hope-

lessly involved because of the growing spirit of sectionalism, Californians ceased not to agitate for better transportation and for a daily overland mail. This movement, in which the Sacramento *Union* participated with warmth and vigor, finally took the form of a monster petition, signed by some 75,000 Californians, which was bound in two sumptuous volumes and forwarded by steamer to Congress in the spring of 1856. Ample evidence that this bore fruit is seen in the forthcoming appropriations for a number of Pacific wagon roads, including one from Fort Kearney via South Pass to the eastern boundary of California.

Within a period of ninety days four separate bills were introduced in Congress having as their object an overland mail to San Francisco; but at the time it was impossible to secure the final passage of any one of them. However, there was renewed and unremitting effort and, on March 3, 1857, the Post Office Appropriation Bill by receiving the presidential sanction became the law under which the Butterfield overland mail, already described, came into being.

Each coach carried three sacks of mail, averaging 170 pounds each, and a bag of newspapers weighing about 140 pounds. The passenger fare from St. Louis or Memphis to San Francisco was $200. There was no Pullman or buffet service, but passengers were given the option of preparing their own meals at the company stations or of purchasing them. The overland passenger was recommended by a San Diego newspaper to provide himself with the following ample equipment:

"One Sharp's rifle and a hundred cartridges; a Colts navy revolver and two pounds of balls; a knife and sheath; a pair of thick boots and woolen pants; a half dozen pairs of thick woolen socks; six undershirts; three woolen overshirts; a wide-awake hat; a cheap sack coat; a sol-

dier's overcoat; one pair of blankets in summer and two in winter; a piece of India rubber cloth for blankets; a pair of gauntlets, a small bag of needles, pins, a sponge, hair brush, comb, soap, etc., in an oil silk bag; two pairs of thick drawers, and three or four towels."

On reaching a "swing station," with cabin and corral, the jaded horses were unharnessed and replaced by fresh teams, while the dusty passengers were given a few minutes' respite. The rough road and the extremely dry atmosphere called for much repair work at the "home stations" and for the constant services of the versatile blacksmith. The passengers seldom required much attention at the hands of the driver or station men; but that they could and did survive those "twenty-four mortal days and nights . . . spent in an ambulance" is a tribute to their physical prowess and Marathonic endurance!

The standard wagon used on the trail, after the service had become established, was the Abbott-Downing coach, a well-tested product of Concord, New Hampshire. This coach could carry a maximum of fourteen passengers, nine seated inside, the others, including the driver, on the roof seat and the box. It was a sturdy vehicle, thus described by Paxson:

"Its body was slung on stout leather braces, and was sheltered from the weather by leather curtains. At the rear of the body was a projecting 'boot' with leather cover, in which the scanty luggage was carried. Twenty-five pounds of personal baggage was the usual allowance for the three-weeks' journey . . . It was on the boot that the mail sacks were packed, and if there was more mail than could be accommodated here, the sacks rode inside, to the exclusion of passengers."

Notwithstanding the fact that in an outburst of enthusiasm the Postmaster-general had pronounced the Butterfield project a "conclusive and triumphant success,"

it proved to be a costly contract for the government; for, whereas Butterfield was to receive $600,000 a year for three years, the receipts to the government from the first year's operation amounted to precisely $27,229.94. In the light of actual experience, the Postmaster-general employed these more sober, more measured words: "Until a railroad shall have been constructed across the continent, the conveyance of the Pacific mails overland must be regarded as wholly impracticable." In addition to the Butterfield stage there were two "non-expedited" services, one ending at Stockton, the other at Placerville; these likewise proved to be heavy liabilities. All such service was to be justified, not on the basis of financial returns, but upon national grounds.

Thus it becomes increasingly evident that the diverse and sundry attempts at solving the problems of transportation and communication touching the great West, and California in particular, must be regarded as forerunners of the Pacific Railroad. In the meantime, the chivalrous knights of the lash, the intrepid riders of the Pony Express, and their many coadjutors and contemporaries inscribed a thrilling page in the romantic, colorful story of continental conquest.

In his recollections of famous drivers Major Ben C. Truman waxes eloquent as he pays them this admiring tribute:

"Of all the notable California characters of from thirty to sixty years ago, the most courtly and gallant, the handsomest and most picturesque, were the stage drivers in the Sierra Nevada Mountains, and they were the best and most fearless whips and drove the best stage horses in the United States. They were also the cleanest looking and best dressers in their line in the country; their clothes being dark and made to order, generally, and their hats of cream-colored felt; they wore genteelly adjusted cravats

and white shirts and collars, their always polished boots fitted like gloves, and their gauntlets were the finest that could be purchased.

"They were greatly respected by all travelers and admired by all women who knew them, because they were respectful and chivalrous, agreeable and punctilious, reliable and kind . . . . They were often good talkers and always splendid listeners, and were the oracles of the barn, the inn and the station. They generally drove six horses, all of the same color, black predominating from the '50's to the '80's, when it surrendered to the bay.

"Not many of them were church members, but they all read the Sacramento Union religiously and swore by Wells, Fargo and Company."

Only a few of the imposing list of "knights of the rein" may be mentioned here. There was "Hank" Monk, who "got Horace Greeley into Placerville on time" to deliver a lecture, but in doing so gave him "the scare of his life"; George Monroe, a Mariposa County mulatto, "undoubtedly the monarch of all"; jolly "Baldy" Hamilton, who counted among his friends men like Leland Stanford, Charles Crocker, and W. B. Ralston; "Mister" E. W. Church, who on one trip had President and Mrs. Hayes with him on the box when they visited Lake Tahoe; "Buffalo" Jim, who later drove for years between Merced and Wawona; Sam Cooper, a New Englander, who many a time carried as passengers such conspicuous men as Broderick and Terry, Sargent and Cole, Gwin and McDougall; "Buck" Jones, a grizzled forty-niner, who claimed to know Governor Low when he drove a dray in Marysville and Creed Haymond when he tended bar in a mining camp on the south fork of the Yuba; "Happy" Buxton, Bob Scott, "Curley" Bill, "Uncle" Billy Mahew, "Old" Jim Haworth, Dan Sill, Charlie Brady, and their like, who "could handle the 'ribbands' with the grace of

a chevalier, but all of whom have now long since joined the innumerable caravan."

The Butterfield stages maintained their schedules with a high degree of success, regular trips being made, after the earlier experience, in from twenty-one to twenty-three days. An overland passenger, writing to the New York *Post*, has left this eloquent tribute:

"The blast of the stage horn as it rolls through the valleys and over the prairies of the West, cheers and gladdens the heart of the pioneer. As it sounds through the valleys of Santa Clara and San José, it sends a thrill of delight to the Californian. He knows that it brings tidings from the hearts and homes he left behind him; it binds him stronger and firmer to his beloved country. So regular is its arrival that the inhabitants know when the welcome sound of the post horn will reach them. The Overland is the most popular institution in the Far West."

It remains to add that while various other overland routes were established, including the extremely southern route from San Antonio, Texas, via El Paso, to San Diego, reference to the great Butterfield line, between which and the central routes there existed strong rivalry, must here suffice, since it is sufficiently representative of them all.

Daily mail service was inaugurated in July, 1862, over the new route which in a general way was later taken by the Union Pacific Railway, and recently by the Lincoln Highway. This service of the "Million Dollar Mail" has been pronounced the "outstanding stage-coach service to the West." It made a conspicuous contribution toward the settlement of vast areas of territory, rendered an invaluable service in the realm of transportation and communication, and proved to be a true precursor of the railroad. The name of Ben Holladay, "presiding genius of the overland mail," must ever be accounted prominent among the builders of California and the West.

Early Express

The first express in California was claimed to be that of C. L. Cody, established in July, 1847, and consisting of a weekly service between San Francisco and Sutter's Fort. This had a precarious existence, however, and proved to be short-lived.

San Francisco claims the first post-office to be opened in California under American rule, established November 11, 1848, Monterey following a fortnight later. For a long time postal service throughout the interior was ludicrously inadequate. It is recorded that during the winter of 1852-53 the Los Angeles office received no mail for a period of six weeks. As late as the middle of 1851, despite the clamorous demands of incoming throngs, there were but thirty-four offices in the entire state. Within a few years from the date, however, they reached into hundreds.

Meanwhile private express lines sprang up in response to the demand for better facilities, and these quickly took a leading place in transportation and intercourse. Indeed, Bancroft asserts that "the enterprise of the people was in no way more manifest than in this branch of business, marked as it was, not alone by bulk and extent, but by the speed and endurance brought out by competition for popular favor." William Frederick Harnden, an early passenger conductor on the Boston and Worcester Railroad, is credited with being the first man to conceive the idea of assuming charge of shipments of money and other valuables and responsibility for their safe delivery at their destination. His plan was to accompany the car himself "for the purpose of purchasing goods, collecting drafts, notes, and bills." This glorified chore boy, who proved to be very handy to those sending letters and small packages of all descriptions, became known as an "ex-

press." The first express started between Boston and New York in 1839.

Among the first organized express agencies to appear in California was that of Adams and Company, which proceeded to absorb several smaller firms and to establish branches in every mining camp and budding city. With its strong assaying and banking departments, its yearly profits proved to be enormous and it speedily won a place of undoubted supremacy.

But a powerful rival sprang up in the firm of Wells, Fargo & Company, which entered San Francisco in 1852. Two years later Wells, Livingston, Fargo and Butterfield incorporated lines extending all the way from Albany and Buffalo, New York, to points in the Far West. Through connections both overland and by water were established. Letters and parcels in great numbers were carried by these express companies, which were often regarded as being more efficient and dependable than the United States mails. It is noteworthy that during its first five years of business in the West, Wells, Fargo & Co's. Express carried fifty-eight million dollars' worth of gold dust into San Francisco.

The firm of Adams and Company, which had come to be regarded as almost as solid as the Bank of England, was overtaken in an unfortunate hour by the sharp financial crisis of 1855—marking the end of "flush times"—and was swept swiftly down to ruin. Wells, Fargo & Company, however, better prepared to meet the shock, rode safely through the storm, and in consequence quickly took the leading place, and gradually gained control of the entire express business in the West. Few episodes in the history of those years preceding the completion of the Pacific Railroad are more dramatic or thrilling than those connected with the bold conception and daring exe-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cution of the plans of that powerful, enterprising company, with its well-nigh ubiquitous representatives.

It may now be freely told that much of the West was in the days of the 'fifties "wild and woolly," and that this express company received most persistent and unprecedented attentions at the hands of polite but well-armed "road agents." While delineating the virtues of the hardy empire builders, it is not amiss to refer to the qualities of robustness and public-spiritedness that characterized many a representative of that great corporation, Wells, Fargo & Company Express, from the senior executive to humblest messenger—and not least, the brave and efficient stage-driver.

"Knights of the Road"

An all too familiar obstacle to transportation and travel in the Far West—dreaded by stock owners no less than by travelers—was encountered in the gangs of vagabonds and highwaymen which for years infested the greater part of California, particularly the waste regions of the San Joaquin Valley. The ranks of these gangs were recruited mainly from Spanish-speaking men who, being deprived of their customary employment and often reduced to desperate straits, were driven into the profession of robbery and sometimes murder.

Moreover, in the absence of any developed banking system throughout the state and the consequent lack of credit mobility, large amounts of gold were regularly carried by Wells, Fargo & Company's coaches, as well as by other means, thus presenting a strong temptation to the so-called knights of the road. It was at the door of the company's stages, writes Cy Warman, "that the picturesque but always polite bandits of Bret Harte used to doff their caps to timid passengers. Their stage roads ran over the shoulders of bleak and desolate mountains, in

the shadows of frowning cliffs, and along the tunnels that had chopped through the forests of California. Here that mild murderer, the road agent, whose only redeeming quality was his politeness, who did not swear or smoke, in his life, did his devilish work." He and his co-adjutors in fourteen years held up more than three hundred stages and made away with strong boxes and packets containing nearly a million dollars. It should be added, however, that brave guards and faithful messengers succeeded in killing at least sixteen bandits, while others were summarily hanged by vigilance committees. So serious was the menace of brigandage as to cause the governor, in 1860, to recommend the death penalty.

The life and adventures of Joaquin Murieta constitute a chapter in California history more thrilling than fiction, but in its consequences far from merely fanciful. This notorious brigand, chief of banditti, was said to have been driven to a career of crime by inhuman anti-foreign persecution. Swearing vengeance upon his persecutors—and upon Americans in general—he proved to be one of the most adroit, elusive, capable, and altogether formidable criminals known to history. After his name had begun to be connected with outrage after outrage committed at widely separated points, it struck terror to Californians from Shasta to the Mexican border. While some members of his band were plain human butchers, Murieta himself was cavalier as well as outlaw, though his essential character ill comports with numerous apocryphal stories calculated to invest this super-bandit with magnanimity or refinement.

The 'fifties in California were years of the Vigilantes as well as of the gold mines and the stage-coach—Judge Lynch held frequent court at not a few points. Large-scale horse stealing, added to highway robbery, frequently brought on ruthless murder. On the rough roads

leading from one camp to another, or between mushroom towns, there was little security except that of the rifle and the bowie knife. With the establishment of the mail and stage lines was quickly developed a specialized type of road agents, whose occupation was to rob coaches of their treasure and politely to pillage the travelers. Even the armed guard could seldom prevent the seizure of the strong box, so sudden and stern was the order, "Halt! throw up your hands!" Resistance meant shooting, and bandits' rifles were murderous weapons. At times the genteel robbers indulged in grimly facetious remarks and displayed a unique species of mock generosity.

A common method used against an unsuspecting traveler, proceeding quietly alone on horseback, was to throw the lariat over his head, drag him by the neck into the bush, and there rob and assassinate him. In 1852, Murieta's banditti numbered some seventy members; his principal leaders were Claudio, García, and Valenzuela. Depredations were being committed in virtually all parts of the state; mysterious and dastardly murders, as well as robberies, were of more and more frequent occurrence.

It remained for Harry S. Love, an intrepid mountaineer and express rider, finally to take Murieta and claim the reward offered for his capture. The arch-bandit's head, in a jar of alcohol—as in the case of the tell-tale hand of Three-fingered Jack García—was exhibited in San Francisco and other centers as an object lesson to malefactors.

Juan Flores was notorious among bandits infesting Los Angeles County in the 'fifties. He was remarkably quick on the draw and "uncannily clever with the knife." Among Anglo-Saxon robbers of the time Tom Bell and Jack Powers were conspicuous examples. Somewhat later came Tiburcio Vasquez—finally captured in 1874 and hanged the following year—who seems to have been the

most feared of all the bandits and outlaws at large in Southern California.

Travelers on the local lines as well as on the overland mail and the Wells, Fargo Express were relatively safe after 1860; but the nefarious activities of highwaymen have never wholly ceased either in California or elsewhere, to our own day. Of the uncounted stages that in other days transported human freight and vast treasure in gold nothing now remains but "ghostly coaches careening through red clouds."

The Camel Corps: Ships of the Desert

As a member of Congress in 1852, while the dream of a transcontinental railroad was still nebulous, but the urgent appeals from California for better transportation and overland mail service amounted to an incessant clamor, Jefferson Davis was deeply interested in the Great American Desert and the dynamic young state beyond. He is credited with being the actual originator of the remarkable experiment of utilizing camels as a medium of transportation and protection against hostile Indians in the Southwest. At that time neither transcontinental railways nor highways existed; the frequented trails were in constant danger of being harassed by red-skin warriors; and it was matter of not uncommon belief that beyond the Mississippi stretched a "vast Sahara which could not be traversed by mules, horses, or oxen."

Deputy Quartermaster-General George H. Crossman is credited with having conceived the idea of using camels in the United States as early as 1848. He assigned the task of investigating the practicability of such a scheme to his subordinate, Major Henry C. Wayne, who thenceforth became closely identified with the project. It is said that the more Wayne investigated, the more enthusiastic he became, finally winning over his superior to the

idea; but when Crossman prevailed upon the Secretary of War to ask for an appropriation "to import a few camels for experimental purposes," the bill excited ridicule and it was three times laughed out of the House of Representatives, when Jefferson Davis, the new War Secretary, succeeded in obtaining the necessary appropriation.

"If camels carried the immemorial traffic of the deserts in the Far East," queries Charles H. Lummis, "why not in the Far West?" Indeed, what could be more appropriate for the American Desert? Mr. Davis pointed to the extent to which these beasts of burden were used in many of the countries of Asia and Africa, to their use by the British in East India and by Napoleon Bonaparte in his famous Egyptian campaign. He believed they might be employed with good effect against hostile Indians on the frontier and be made a highly successful means of transport.

What such a plan might mean to California is obvious. Some of the newspapers became earnest in advocating the plan, proclaiming that it would be possible "to form a lightning dromedary express, to carry the fast mail and to bring eastern papers and letters to California in fifteen days." James M. Guinn has indicated, rather facetiously, that by means of camels and dromedaries it would be possible "to have fast camel passenger trains from Missouri River points to the Pacific Coast." Then he continues:

"The camel, loading up his internal water tank out of the Missouri and striking straight across the country regardless of watering places, and boarding himself on sagebrush the plains across, would take his next drink of the trip out of the Colorado River; then after a quiet *pasear* across the desert he would land his passengers in the California coast towns in two weeks of the time of starting. No more running the gauntlet of Panama fevers and thieving natives on the isthmus. No more dying of thirst on

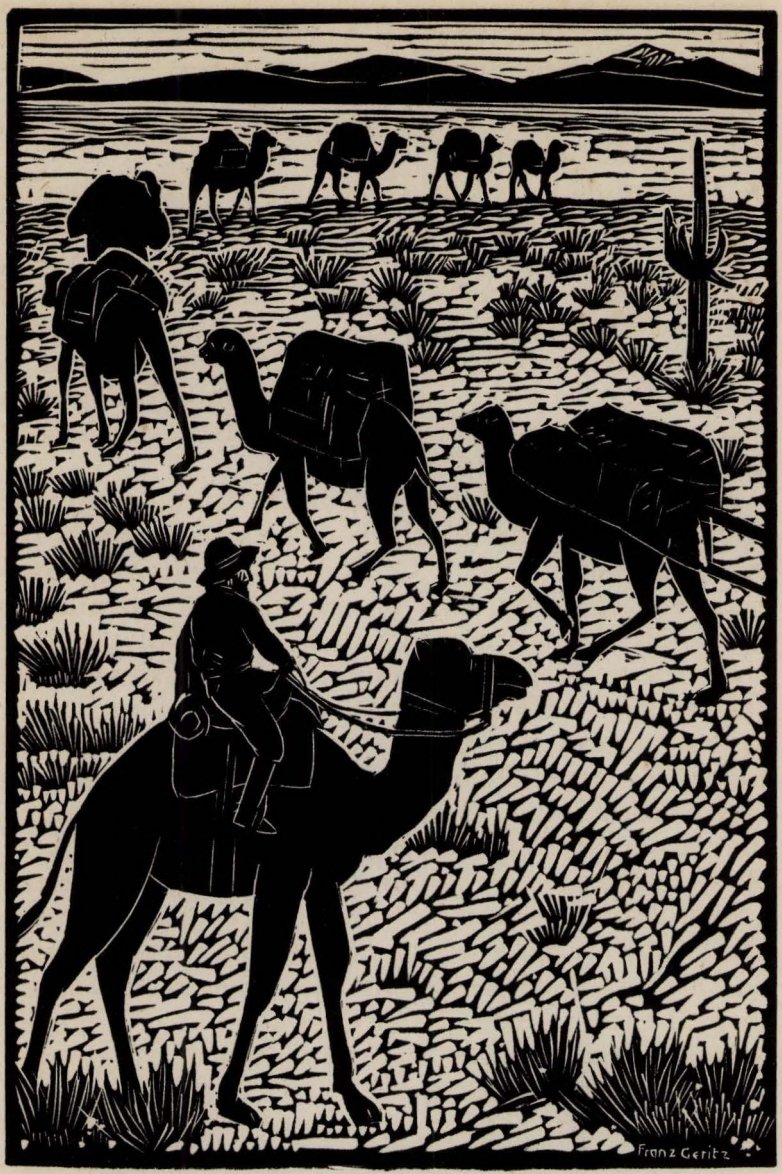
the deserts. No more freezing to death in the snows of the Sierras; no more shipwrecks on the high seas. The double-decked camel train would do away with all these and solve the transportation problem until the Pacific railroad was built."

So we come to the first and last American experience with camels as a means of transportation. After early disappointments a Congressional appropriation of $30,000 was secured in 1854, and a purchasing expedition headed by Major Wayne, the man who now knew more about dromedaries than anybody else in America, was conducted to Egypt and the Levant. "The history of the Army rebounds in unusual duties performed by its officers," writes Robert Ginsburgh, "but few compare with Major Wayne's mission. It required an international diplomat, an accomplished auctioneer, and an obedient soldier, and most of all, the patience of Job." His itinerary included Smyrna, Saloniki, Constantinople, Palmyra, Damascus, and Persia.

The American ship *Supply*, commanded by Lieutenant David D. Porter (later Admiral), reached Tunis in early August, 1855. After acquiring three camels there, two of which were thrust upon him by His Highness the Bey, and thirty times three novel experiences, Wayne proceeded to Malta, where he wrote in one of his reports:

"News of my coming flew before me on the wind and every sore-backed and superannuated camel in Asia Minor was doctored up and hurried to the coast to be generously offered to the United States at a grievous sacrifice of ten times its value."

Neither the dromedaries nor their native attendants took kindly to the boisterous sea; nevertheless, the expedition finally arrived at Indianola, Texas, with thirty-four of the ungainly animals. On the voyage there had been six births and four deaths. Great numbers of Texans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turned out to watch the unloading of the strange cargo, which is thus described:

"The animals, led by their American and Oriental guides, marched down the gang-plank in a most docile manner. As soon as they hit the solid earth, however, their demeanor suddenly changed. They became excited and uncontrollable. They reared, kicked, cried, broke their halters, tore up the picket lines and engaged in other fantastic tricks such as pawing and biting each other. The Texans, at first amused at these antics, became panic-stricken and fled."

Next was launched the "experiment of acclimating the ship of the Arabian desert upon the arid wastes of the American Southwest." Of them their admiring commander wrote—possibly on too slight acquaintance: "They are the most docile, patient, and easily managed creatures in the world and infinitely more easily worked than mules." "He rode them," says Paxson, "used them as draft animals; he ascertained the advantage of their padded feet over the fragile hoofs of mules and horses; he noticed their ability to go without a drink, and reported that on one crossing of the Southwest he never once went out of his way to give them water." Wayne had expected a great deal of the army camels in effecting a "lightning charge against unsuspecting Indians"; in this, however, he was much disappointed, for the cameleers seldom got their animals to move faster than a walk. No hostile red-skins were made to feel the impact of a lightning charge of army dromedaries!

The next year another caravan of about forty more camels was brought over on the *Suwanee*, arriving in February, 1857, to be sent to the interior, there to carry burdens of from one half to three quarters of a ton each and to cover forty to fifty miles a day.

Troops of camels were stationed at the forts in El Paso,

Texas, and Fort Bowie, Arizona. One herd was used in packing on the Texas plains and in southern Arizona. Twenty-three were ordered to Fort Tejon in Southern California, where General Edward F. Beale maintained headquarters. Beale had much to do with the experiment with the Camel Corps. A Los Angeles writer in 1858 tells how the general with his caravan of camels stalked into town "last Friday week and gave our streets quite an Oriental aspect." The writer continues:

"It looks oddly enough to see outside of a menagerie, a herd of huge, ungainly, awkward, but docile animals move about in our midst with people riding them like horses and bringing up weird and far-off associations to the Eastern traveler . . . .The camels are all well-grown and serviceable and most of them are well-broken to the saddle and are very gentle. All belong to the one-hump species, except one, which is a cross between the one and two-hump species. This fellow is much larger and more powerful than either sire or dam. He is a grisly-looking hybrid, a camel-mule of colossal proportions."

This camel caravan made several trips between Fort Tejon and Albuquerque, while the other portion of the herd was used for transporting freight on the Texas plains and in the territory of the Gadsden Purchase. Referring to the first arrival in Los Angeles—when "the camels have come to town"—the Los Angeles *Star* says:

"A drove of fourteen camels under the management of Lieutenant Beale arrived in Los Angeles. They were on their way from Fort Tejon to the Colorado River and the Mormon country, and each arrival was packed with one thousand pounds of provisions and military stores. With this load they made from 30 to 40 miles per day, finding their own subsistence in even the most barren country and going without water from six to ten days at a time."

It is not true, as some writers have alleged, that the

imported camels never gave any promise of success. The United States Army had, by 1860, established a caravan system in the Southwest that has been compared with those in the deserts of the Orient; and every military post of significance on the main highway from Texas to California had its quota of camels. Their value as pack animals was noted by certain business firms in San Francisco and the Camel Importing Company sought to introduce them for use in the mines of Nevada.

But in the end the brave dream about camels in California and the Southwest proved to be a total and certainly a costly failure. The far-famed "Ships of the Desert" failed to live up to their reputation on the rugged mountains and lava beds of Arizona and Nevada. Worse than that—they proved to be unpopular alike with man and beast, for the "mule-whackers" and soldiers found them a nuisance, and many a mule train was stampeded at sight of them. If one of the "hump-backed brutes" should chance to pass near a corral, as likely as not the corral could not hold its inmates; the whole *caballado* might make a wild dash for the range. Even the virtue of submissiveness provoked the impatient American driver, and thus, as Mr. Guinn remarked, "the mild-eyed pensiveness of the Arabian burden-bearer was exasperating." Neither teamster, nor vaquero nor army man wanted anything to do with the "misshapen beast"—and in this feeling of antipathy army horses and mules cordially joined.

Nobody seemed either able or willing to understand or manage the camels except "Greek George" and "Hi Jolly" (Philip Tadio) and the other imported drivers. The mistake seems to have been made of not importing Oriental drivers in sufficient numbers. The recalcitrant army drivers were deficient in both understanding and sympathy—deficiencies that were common to beasts and men. Had the teamsters, who lost no love on the camels,

been able to swear in Syrian—some one has suggested—the result might have been different!

"Greek George," it may be worth remarking, who came to this country as a youth with the camels, was entertained, many years later, at the picturesque home of Charles H. Lummis in Los Angeles, under the selfsame sycamore tree—so the genial host has stated—where he in 1858 had camped with his eighteen camels. Later he became an adopted American citizen, as George Allen, and lived to reach the age of seventy-five years.

There is reason to believe that all these practical difficulties and vexatious annoyances, which have occasioned numerous stories that are doubtless more naïve than historical, could have been overcome and that real and lasting success might have crowned the patient efforts of Major Wayne but for the one great event that dominated everything in American history. The experiment seemed to show greatest promise when the opening of the Civil War dealt it its death blow. Wayne resigned his commission to become a major-general over Georgia troops, Davis was made head of the Confederacy, and Congress became engrossed with "more serious matters than camels."

As the Civil War progressed, the camels began to disappear. It has been urged that they were not given a fair chance to prove their worth; in any event, the experience resulted in complete failure. The Confederates seized Camp Verde, but the camels proved to be a burden and not a blessing. Those at Forts Tejon and Yuma were taken north to Benicia and auctioned off to the highest bidder; others were later taken to Nevada to carry salt to the great Comstock mines. More disastrous runaways by terrified horses and mules. In Virginia City the board of aldermen is reported to have adopted a resolution that "no camels should appear on the streets except between

midnight and dawn!" Eventually the entire squadron of these ships of the desert were set adrift on the billowy deep of the Arizona desert, on which they floated aimlessly about, stampeding cattle and horses and bringing down upon themselves the wrath of prospectors and teamsters. They were never permitted to come to quiet anchorage in a secure and peaceful harbor.

In the meantime, the Apache Indians had developed a fondness for camel steaks and stews, and wandering remnants of the herd, rendered shy by adverse conditions, were sometimes made the object of the hunt. Some were rounded up for exhibition purposes as late as 1905; even later than that it was not unusual to catch a glimpse of one of Greek George's camels in the Arizona desert. It is hardly likely that there are any survivors today; but without doubt the veteran prospectors, as they visit the old claims and gather about the camp fire, will continue to see the "apparition of one of these ungainly beasts, whitened by age," phantom camel, dimly stalking over the range, till life itself flickers out. The story is told of one hunter who saw "a red camel in the wilds of the desert with a saddle on its back to which was lashed a human skeleton."

The Pony Express

The Pony Express, though extremely short-lived as an institution and unprofitable as a business venture, has been described as "the most romantic transportation any continent has ever known." Our literature of the subject has been permanently enriched by Mark Twain, who in *Roughing It* depicts in unique and inimitable phrase his travels by stage-coach out in the West. Notwithstanding all subsequent miracles of speed and power by express train, motor car, and airplane, his word picture will

never cease to move and thrill. It is a faithful delineation of a stirring episode of real American life. Here it is:

"In a little while all interest was taken up in stretching our necks and watching for the 'pony-rider'—the fleet messenger who sped across the continent from St. Joe to Sacramento, carrying letters nineteen hundred miles in eight days! Think of that for perishable horse and human flesh and blood to do! The pony-rider was usually a little bit of a man, brimful of spirit and endurance. No matter what time of the day or night his watch came on, and no matter whether it was winter or summer, raining, snowing, hailing, or sleeting or whether his 'beat' was a level straight road or a crazy trail over mountain crags and precipices, or whether it led through peaceful regions or regions that swarmed with hostile Indians, he must be always ready to leap into the saddle and be off like the wind! There was no idling-time for a pony-rider on duty. He rode fifty miles without stopping, by daylight, moonlight, starlight, or through the blackness of darkness—just as it happened. He rode a splendid horse that was born for a racer and fed and lodged like a gentleman; kept him at his utmost speed for ten miles, and then, as he came crashing up to the station where stood two men holding fast a fresh impatient steed, the transfer of rider and mailbag was made in a twinkling of an eye, and away flew the eager pair and were out of sight before the spectator could hardly get the ghost of a look. Both rider and horse went 'flying light.' The rider's dress was thin, and fitted close; he wore a 'roundabout,' and a skull-cap, and tucked his pantaloons into his boot-tops like a race-rider. He carried no arms—he carried nothing that was not absolutely necessary, for even the postage of his literary freight was worth five dollars a letter. He got but little frivolous correspondence to carry—his bag had business letters in it, mostly. His horse was stripped of

all unnecessary weight, too. He wore a little wafer of a racing-saddle, and no visible blanket. He wore light shoes, or none at all. The little flat mail-pockets strapped under the rider's thighs would each hold about the bulk of a child's primer. They held many and many an important business chapter and newspaper letter, but these were written on paper as airy and thin as gold-leaf, nearly, and thus bulk and weight were economized. The stage-coach traveled about a hundred to a hundred and twenty-five miles a day (twenty-four hours), the pony-rider about two hundred and fifty.

"Presently the driver exclaims:

"'Here he comes!'

"Every neck is stretched further, and every eye strained wider. Away across the endless dead level of the prairie a black speck appears against the sky, and it is plain that it moves. Well, I should think so! In a second or two it becomes a horse and rider, rising and falling, rising and falling—sweeping toward us nearer and nearer—growing more and more distinct, more and more sharply defined—nearer and still nearer, and the flutter of the hoofs comes faintly to the ear—another instant and a whoop and a hurrah from our upper deck, a wave of the rider's hand, but no reply, and man and horse burst past our excited faces, and go winging away like a belated fragment of a storm!

"So sudden is it all, and so like a flash of unreal fancy, that but for the flake of white foam left quivering and perishing on a mail-sack after the vision had flashed by and disappeared, we might have doubted whether we had seen any actual horse and man at all, maybe."

Whether or not, as one story of its origin runs, the Pony Express grew out of a bet, may never be certainly established, and indeed is of slight consequence. Whether or not, as Jack Keetley declared, and as now seems be-

yond reasonable question of doubt, its real object was "to show the authorities at Washington that the way of Denver and Salt Lake to Sacramento was the shortest route,"—at any rate, the enterprise proved to be of genuine importance to the development of the commercial interest of California and the Pacific Coast, and, in the words of Glenn D. Bradley, "it marked the supreme triumph of American spirit, of God-fearing, man-defying American pluck and determination—qualities which have always characterized the winning of the West."

It is related that in the autumn of 1854 United States Senator William M. Gwin of California, who was making an overland trip by saddle horse to Washington, D. C., fell in, for a portion of the way, with B. F. Ficklin, General Superintendent for the stage and freighting firm of Russell, Majors, and Waddell. Ficklin, an experienced and resourceful man of the plain, confided the idea that had been forming in his mind of a faster service between the Missouri River and the coast to Senator Gwin, who was quick to see in it much of practical advantage to California and of political benefit to himself. Accordingly, in the following January he introduced in the Senate a bill proposing a fast weekly letter service between San Francisco and St. Louis. The bill died in committee. Congress was engrossed in the great issues that finally led to secession and civil strife.

It was Major George Chorpenning who "established the first Pony Express in 1858 and delivered President Buchanan's message to Sacramento in 17 days from Washington." We quote his words:

"During the fall of 1858, while opening the new road south of the Humboldt River, I conceived the idea of stationing a horse at every mail station from Missouri to California, for the purpose of carrying President Buchanan's second message to Congress through to the Pacific.

To this end I arranged with the contractors east of Salt Lake for the necessary men and horses, and then sent a man to Washington, in the latter part of November, with letters to the President, Atty.-Gen. Black and others to aid in procuring the message as soon as it should be delivered to Congress. This was done and in seventeen days eight and one half hours it was delivered at Sacramento, and for the first time in the history of the country, Sacramento City had news from the Eastern States before it was received at San Francisco.

"In past years I have occasionally met with a newspaper or magazine article regarding the exploits of some man or another, claiming to be the pioneer and originator of the first Pony Express across the plains, and I am almost constrained to hunt the man up to learn whether I am he or he is I, for I do most certainly know, as do all the early settlers of Salt Lake City, that I was the first man who put into operation such an enterprise. I established the first Pony Express in the fall of 1858, for the purpose above named, and it was not until nearly two years after this time that, in connection with W. H. Russell & Co., the regular Pony Express was established."

The idea of the Pony Express took concrete form by virtue of the active cooperation of F. A. Bee and W. H. Russell, and in 1860 the organization of a corporation styled "Central Overland California and Pike's Peak Express Company" was effected. Each one of the incorporators had served as an employee of the old freighting company. The old stage line from Atchison to Salt Lake City, together with mail route and operating outfit, was purchased by the new concern, which likewise absorbed the Leavenworth and Pike's Peak Express (for both passengers and freight). The new firm aimed to continue an extensive passenger and freighting business. Russell was made manager of the Eastern Division, Ficklin was sta-

tioned at Salt Lake City, and W. W. Finney was made Western manager, his headquarters being at San Francisco.

On March 26, 1860, the following announcement and advertisement appeared in the New York *Herald* and the St. Louis *Missouri Republican*:

"To San Francisco in Eight Days by The Central Overland California and Pike's Peak Express.

"The first courier of the Pony Express will leave the Missouri River on Tuesday, April 3d, at 5 o'clock p. m., and will run regularly weekly thereafter, carrying a letter mail only. The point of departure on the Missouri River will be in telegraphic communication with the East and will be announced in due time.

"Telegraphic messages from all parts of the United States and Canada, in connection with the point of departure will be received up to 5 o'clock p. m. of the day of leaving and transmitted over the Placerville and St. Joseph telegraph wire to San Francisco and intermediate points, by the connecting express in eight days.

"The letter mail will be delivered in San Francisco in ten days from the departure of the express. The express passes through Forts Kearney, Laramie, and Bridger, Great Salt Lake City, Camp Floyd, Carson City, the Washoe Silver Mines, Placerville, and Sacramento.

"Letters for Oregon, Washington Territory, British Columbia, the Pacific Mexican ports, Russian possessions, Sandwich Islands, China, Japan, and India will be mailed in San Francisco.

"Special messengers, bearers of letters to connect with the express of the 3d of April, will receive communications for the courier of that day at No. 481 Tenth Street, Washington City, up to 2.45 p. m. on Friday, March 30 and in New York, at the office of J. B. Simpson, Room

No. 8, Continental Bank Building, Nassau Street, up to 6.30 a. m. of March 31st.

"Full particulars can be obtained on application at the above place and agents of the Company.

"W. H. RUSSELL, President.
Leavenworth City, Kansas, March, 1860.
Office in New York, J. B. Simpson, Vice-President.
Samuel & Allen, Agents, St. Louis.
H. J. Spaulding, Agent, Chicago."

The actual, thrilling career of the Pony Express began in fact on April 3, 1860, when the first mounted courier started westward from the Missouri River, and when, on the day following, a bundle of letters was dispatched from San Francisco by the Sacramento boat, to be forwarded from the capital city the next day on the Sacramento Valley Railroad to Folsom, then by stage to Genoa, Nevada, where, continues Eldredge, "the pony rider took it for its long journey by night and by day through the Indian country to St. Joseph, Missouri."

The arrival in California of the last rider of that first trip westward is vividly described in Eldredge's *History*:

"At Placerville guns were fired and speeches made that he did not wait to hear. At Sacramento the legislature adjourned in honor of his arrival. The city was gay with flags and crowds lined the streets along which he was to pass. A troop of horsemen went out to meet him and escort him into town. At five o'clock in the afternoon, amid the booming of cannon, ringing of bells and cheering of the multitude, horse and rider were taken on board the steamer *Antelope*, and sent off to San Francisco. There another demonstration was awaiting them. . . announced in all the theaters to members of the engine companies, and circulated generally through the streets. Before midnight a crowd such as had not assembled since the Feb-

ruary morning eleven years earlier when the *California* arrived, filled the streets. . . . "

That memorable trip westward—a total run of 1,966 miles—was completed in nine days and twenty-three hours. The actual schedule of runs on the trip is given as follows: "Left St. Joseph at 6:30 p. m. on the 3rd of April; arrived at Salt Lake City, 6:30 p. m. on the 9th; at Carson City, 2:30 p. m. on the 12th; at Placerville, 2 p. m. on the 13th; Sacramento, 5:30 p. m. on the 13th; San Francisco, 1:00 a. m. on the 14th." The route was that of the overland mail via Salt Lake City—in general the same as that taken by the Mormon pioneers of 1847 and by the great majority of the Argonauts of 1849. And thus was fittingly inaugurated the far-famed Pony Express.

It is well to pause for a moment to get a somewhat more intimate view of this unique organization and of its regular functioning. Note, first of all, its equipment, which comprised 190 stations, 420 selected horses, 400 station men, and 80 picked riders. The horses, ranging from tough California cayuses or mustangs to thoroughbred stock from Iowa, were the best that money could buy, costing an average of $200 each. The youthful riders, on whom so much depended, were "the pick of the frontier," of light weight and lithe body, carefully selected to carry and deliver the mail, and not to shoot Indians. Though usually well armed with pistols and knives, as well as sound reputation for courage and intrepidity, Colonel Majors had decreed that they might go gunning for redskins only when off duty; "but when they were on the job they were supposed to run rather than fight." Their salaries were modest enough—ranging from $100 to $125 a month. The oath required of each rider is a striking evidence of the complete trustworthiness demanded by the firm:

"I, ... , do hereby swear, before the

Great and Living God, that during my engagement, and while I am an employee of Russell, Majors and Waddell, I will, under no circumstances, use profane language; that I will drink no intoxicating liquors; that I will not quarrel or fight with any employee of the firm, and that in every respect, I will conduct myself honestly, be faithful to my duties, and so direct all my acts as to win the confidence of my employers. So help me God."

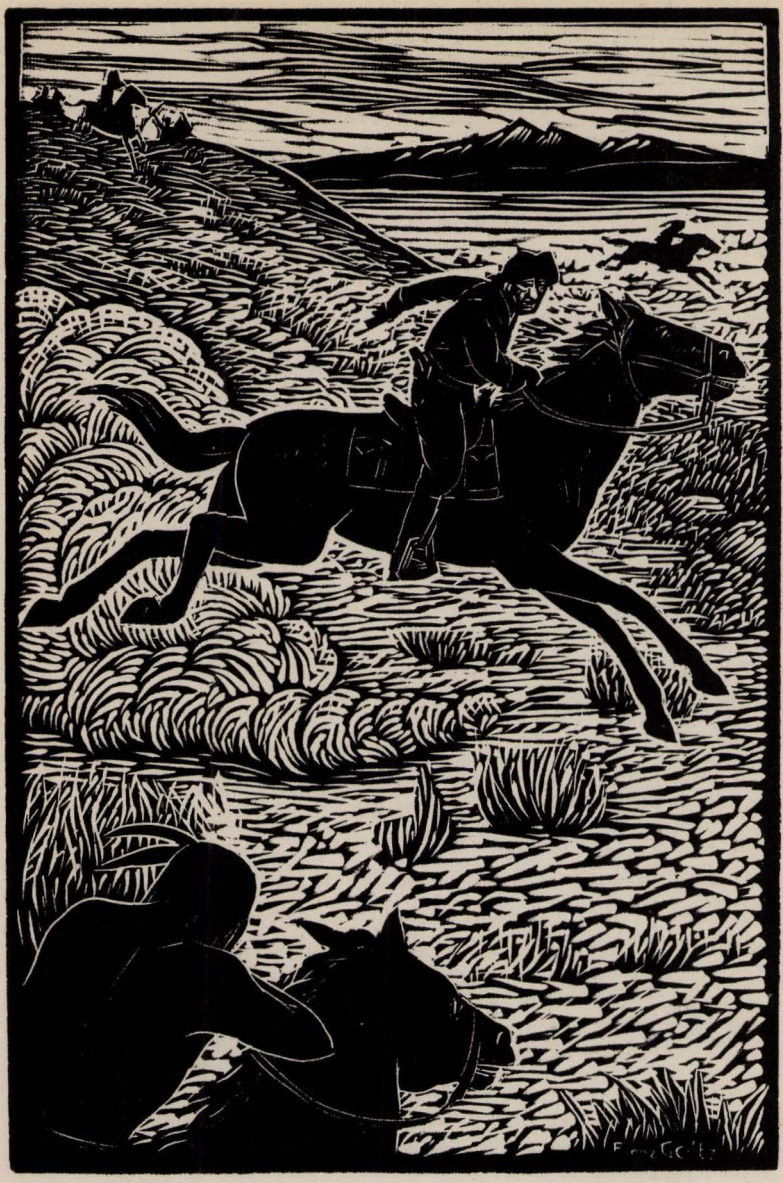
The well-defined route between St. Joseph and Sacramento was divided into three sections and followed very largely the trail of the emigrants to California. From St. Joseph it proceeded across Missouri, southwest to the old military road, forty-five miles distant, at Kennekuk, north and west across the Kickapoo Indian Reservation, onward through Grenada, Logchain, Teneca, Ash Point, Guittard's, Marysville, Hollenburg up through Little Blue Valley to Rock Creek, then across the divide and over sand hills and prairies to the Platte River, thence due west through the valley to Fort Kearney, and 200 miles along the Platte till old Julesburg was reached. Across the South Fork it continued in a northwesterly direction to Fort Laramie, then over the foothills of the Rocky Mountains to South Pass, and on via Fort Bridger to Salt Lake City. At Salt Lake the mail was taken by riders from Sacramento, who proceeded to Old Camp Floyd in Rush Valley, to Deep Creek, Ruby Valley, Smith's Creek, and Fort Churchill, thence through Reed's Station, Dayton, Carson City, Genoa, Friday's Station, Placerville, Folsom, and on to Sacramento, the western terminus, from which mail was sent to San Francisco by steamboat. All matter for Oregon, Washington Territory, British Columbia, the Pacific ports of Mexico, Russian possessions, the Sandwich Islands, China, Japan, and India was remailed at San Francisco.

For that time a highly efficient system of operation was

established, with nearly two hundred stations at intervals of about ten miles, where there were relays of horses and food for the riders, each of whom was to make on regular schedule three stations during his ride—though there were naturally numerous deviations from schedule on account of emergencies of various sorts. Both horses and men were expected to be in readiness for an extra spurt whenever required. "The rider kept his pony on the full run," says an early account, "and when he reached a new station—whatever the hour of day or night—another messenger, ready mounted and waiting, took the little mail-sack, struck spurs into his steed and was off like the wind." From the St. Joseph *Democrat* is quoted this bit of vivacious description:

"Take down your map and trace his footprints from St. Joseph on the Missouri to San Francisco on the Golden Horn—from the last locomotive to the first steamship—two thousand miles—more than half across our boundless continent. Through Kansas, through Nebraska, by Fort Kearney, along the Platte, by Fort Laramie, past the Buttes, over the Rocky Mountains, through cañons, along the steep defiles—Utah, Fort Bridger, Salt Lake City—he witches Brigham with his swift ponyship. Through valleys, along grassy slopes, into the snow, into the sand, faster than Thor's Thialfi; away they go! rider and horse, did you see them? They are in California, leaping over its golden hills, treading its busy streets. The course has unrolled the great American Panorama, and allowed us to glance at the future home of a hundred millions of people. He has put a girdle round the earth in forty minutes. Verily his riding is like the riding of the son of Nimshi, for he rideth furiously. Take out your watch. We are eight days from New York, eighteen days from London. The race *is* to the swift."

Letters carried by the pony riders were written on the



thinnest of paper; the through rate of postage was at first $5.00 per half-ounce letter, in addition to the regular ten cent government postage, though this was later reduced to $1.50 and finally to $1.00. The letters were wrapped in oiled silk, which was then sealed and placed in a lock pouch, called a *mochila*, which contained four small leather bags (*cantinas*), and which was securely strapped to the rider's saddle. Editions of New York and San Francisco newspapers appeared on thin tissue in order that they might be carried by Pony Express across the continent. The small leathern pouches never weighed more than twenty pounds each.

Of all the pony riders, "Buffalo Bill" (William F. Cody) became most widely known. He is said to have entered his career as a lad of fourteen, and is credited with a continuous ride of 384 miles—a mark that has never been equalled. Jim Moore is another star among the riders—a fine specimen of young physical manhood—who on one occasion made a continuous ride of 140 miles from Midway Station to old Julesburg, where he was then compelled to take the place of his partner, whom he found in bed, unable to ride. And so, after a delay of but ten minutes, he leaped to the saddle for the return trip of 140 miles eastward. In appreciation of this performance Ben Holladay presented him with a gold watch and a special express which carried the news of Lincoln's election.

Bill Cates had the distinction of carrying the last Congressional message of President Buchanan (December, 1860) and President Lincoln's inaugural address the following March, and is said on one occasion to have been chased by a band of Arapahoes and Kiowas on the run between Leavenworth City and Fort Riley. For hairbreadth escapes "Pony Bob" Haslam probably deserves the palm—it was his ticklish task to carry dispatches

through hostile territory after the outbreak of the Pai-Ute War in Nevada Territory.

Albert D. Richardson in his entertaining narrative *Beyond the Mississippi* gives this little touch of life in connection with his trip by stage-coach from Denver to "the States":

"One November midnight, upon the plains, the little pony dashed by us on a full run.

"'What's the news?' shouted the driver.

"'Lincoln was elected! New York gives him fifty thousand majority!' came back the cry through the darkness.

"It woke up all our Republicans who sent forth cheer upon cheer, while the Democrats were sure that it must be a hoax.

"When we reached St. Joseph there was some excitement; and Jeff Thompson, ex-mayor of the city, had issued a flaming proclamation urging the people to resist the northern minions." Afterward as a guerrilla captain in southern Missouri and Arkansas he found ample opportunity for all the fighting he wanted.

The list of well-known riders comprises besides "Buffalo Bill" and Jim Moore, "Bill" James, a Virginian, who covered his round trip of 120 miles in Nevada in twelve hours, including all stops, and who at the age of eighteen was rated as one of the best riders of the service; Jack Keetley, whose stellar performance is described in a letter —perhaps a trifle inaccurately—as being "the longest ride without a stop, only to change horses. It was said to be 300 miles, and was done a few minutes inside of twenty-four hours"; Don Rising, who on two occasions while carrying important dispatches between Big Sandy and Fort Kearney, is said to have kept up a continuous speed of twenty miles an hour; Alex. Carlyle, who made the initial ride out of St. Joseph on the establishment of the line, in April, 1860; "Mel" Baughn, Johnny Frey, Jap

Kelley, and "Dock" Brink. The majority of that band of young stalwarts are unknown to fame; yet it would not be inappropriate, in view of their common achievement, to erect on a conspicuous spot, midway between Sacramento and St. Joseph, where the unceasing tide of modern tourists might behold, a fitting monument of permanent character to the Unknown Rider of the Pony Express.

For sixteen months regular weekly mails were carried over the well-defined route, without government subsidy. The principal patrons were government employees, merchants, and traders. Despite the high rate of postage, the Pony Express proved financially unprofitable—despite the fact that as many as twenty-five one-dollar "Pony" stamps and an equal number of government stamps (amounting to $27.50 total postage), were often found on a single envelope in the *mochila*. The enterprise might eventually have been put on a paying basis had not the completion of the electric telegraph across the continent on October 24, 1861, by establishing communication between Fort Kearney and Carson City, undermined its practical usefulness. The Pony Express had run its course; it was officially discontinued October 7, 1861, with a record of only one serious interruption and one mail lost in the 650,000 miles ridden during a period of nineteen months; the remnant was transferred to the Wells Fargo Express. "The pony was fast," as Le Roy Hafen remarks, "but it could not compete with the lightning." While it had not been possible fully to maintain the schedule at all times, only one trip was missed completely. After winter storms it had been found necessary to use pack animals, under conditions that imposed great hardship; and at times during winter months the Sierra Trail had to be abandoned altogether. On more than one occasion the mails were sent by boat from San Francisco to San Pedro and there picked up by pack-

trains and carried via Los Angeles and San Bernardino to Salt Lake.

As Jack Keetley had declared, its object was "to show the authorities at Washington that by way of Denver and Salt Lake to Sacramento was the shortest route, and the job worked successfully"—by actual demonstration the central route was shown to be practicable. The Pony Express proved a great impetus toward securing a contract for the daily stage-coach service, which was established in July, 1861. If it was a financial failure, it was nevertheless a national success.

Indirectly if not directly the Pony Express was of considerable economic importance to California and the great West—it blazed the way for the first transcontinental railroad. Perhaps even more important than this, it rendered invaluable service in keeping the Golden State together with the Pacific Coast and the Rocky Mountain region loyal to the Union at a time when the loyalty of the West was sorely needed. Revealing the conquest of the West in one of its most spectacular phases, it has been pronounced "an act in the great Western drama that will always be recalled and reenacted as one of our precious heritages."

Though clearly destined to give place to the telegraph and later the railroad, we can understand and sympathize with the sentiments of reluctance experienced by old Californians because of the passing of the Pony Express. We can likewise catch a thrill from the commemoration of the deeds of the plucky young riders when for three days in September, 1923—the conditions of 1860 being reestablished, as nearly as possible, for the ride from St. Joseph—San Francisco turned aside to revive the memories of "Pony Bob" Haslam and his mates, "Blazing the westward way." This spectacular phase of the conquest

of the West was recalled and reenacted "as one of our priceless heritages." One of the finest contributions was the poem by George Sterling, who sang:

From out those years that every year grow stranger,
Brightest, I think, the fearless riders gleam,
Who took their part in all that joyous danger,
To serve the human dream.

Who bore the mail by desert or by fountain,
Braving the savage and the tempest's wrath,
Across the plain, across the midnight mountain,
Taking the lonely path.

* * * *

The courage that was theirs may Time make stronger,
As now the new romance begins its reign,
And high above the trail they take no longer
Flashes the aeroplane.

Chapter VI

CHAPTER VI

The Iron Horse Crosses the Continent

IN THE COMPLETION of the Pacific railroads in 1869 is to be seen the realization of the desire of centuries for a direct passage westward from Occident to Orient. For generations Spanish navigators longed and labored to locate the phantom, illusive Strait of Anián and thus solve the mystery of the Northwest Passage. Great captains from other nations pursued the quest in the names of their respective sovereigns. All failed in their long and diligent search.

In the meantime, Americans took up the task, purposefully and irresistibly, of opening up commercial routes to far Cathay. In the fullness of time there was created the world's most marvelous network of highways, railroads and telegraph wires from the Atlantic seaboard to the Pacific, and at length that wonder waterway of the modern world—the Panama Canal. Herein lies the answer to long years of devoted endeavor and infinite sacrifice. Today, California fronts the Pacific: the Occident stands face to face with the Orient. Senator Thomas H. Benton, of Ohio, for many years one of the foremost statesmen of the nation, from a very early date ardently believed that Asiatic commerce could be brought into the Mississippi Valley by a grand route

leading up the Missouri and down the Columbia River. The essays in his *Highway to the Pacific* were intended to show that the American continent was destined to be the final channel of the coveted commerce with Asia which had stirred the ambitions of the nations from the time of the glory of Tyre and Sidon in ancient Phœnicia. He made a passionate plea that the iron trail "be adorned with its crowning honor, the colossal statue of the great Columbus, whose design it accomplishes, hewn from the granite mass of a peak of the Rocky Mountains, overlooking the road, the mountain itself, the pedestal, and the statue a part of the mountain, pointing with outstretched arm to the western horizon, and saying to the flying passenger, 'There is the East! There is India!'"

Ground was broken for the Baltimore and Ohio Railroad on July 4, 1828, by Charles Carroll, the only surviving signer of the American Declaration of Independence. His ever-memorable words on that occasion were: "I consider this among the most important acts of my life, second only to that of signing the Declaration of Independence, even if second to that."

The first American railroads were quite naturally local and experimental in character. More valuable experience than cash returns accrued to their builders—for there was everything to learn (usually by the costly trial-and-error method) about the very fundamentals of construction—road-bed and grading, materials and track, motive power, rolling stock of all kinds, and most vital of all, financial organization.

Before there was any railroading of consequence in the then West, the panic of 1837 descended upon the country with its withering touch, and it was more than a decade before there was a thoroughfare between the Great Lakes and the Ohio River. In the meantime, far-

off California was attracting considerable attention in the eastern centers and the War with Mexico resulted in its acquisition by the United States.

Early Foreshadowings

Possibly the first important suggestion looking toward transcontinental transportation was that made by Robert Mills, who in 1819 submitted a remarkable plan to Congress boldly proposing "that Charleston, South Carolina, be connected with the Pacific Coast by a system of canals and natural waterways, up the Mississippi and Missouri to the Great Falls, and 'thence passing through the plains and across the Rocky Mountains to the navigable waters of the Kooskooskee River, a branch of the Columbia, three hundred and forty miles.'" Here in truth was a recommendation and project that presupposed an imagination inferior to but few in the whole wide range of the Westward Movement.

Who the first man was to venture the bold suggestion of a great railroad connecting the eastern portion of the United States with the Pacific Coast will probably never be known to a certainty. Very likely the idea occurred to several persons at distant points from each other at about the same time; like many another idea, it may be regarded as an evolution.

Slight conception had those earliest advocates of a Pacific railroad of the magnitude of such an undertaking or of the colossal difficulties to be overcome before realization could even be brought within the range of possibility. The first arguments in behalf of the enterprise were characterized by far more of colorful romance and lurid impressionism than by topographical data and calculated financial plans. As Cy Warman has expressed it, "Veritable dreamers were the early friends of the Pacific railroad. Themselves farther from the pay

streak than the Atlantic was from the Pacific, they were ever scolding Congress for its tardiness, and capital for its timidity." In a letter to the Philadelphia Railroad Convention in 1850 Senator Rusk of Texas made reference to the Pacific railway as the "Colossus of Rhodes"; another dignified Senator with perhaps less claim to originality, afterward referred to it as the "Colossus of Rail-Rhodes!"

In the midst of that first group of enthusiasts on the subject of a Pacific railroad there stands out, head and shoulders above his fellows, Asa Whitney, a New York merchant. While in far Cathay between 1830 and 1835 he was stirred by what he read of the wizardry of the infant railroad in England. Why would it not be possible, he reflected, to connect Europe with the Orient by constructing a railroad across the American continent? He had dreamed his dream. Henceforth, for many months, he delved into trade statistics of China, Japan, and India; and then he returned to America "full of figures and faith" in his absorbing theme. After years of toil and worry he secured a hearing before Congress; yet no appropriation was made for seven long years more.

In 1845, before the Bear Flag was raised at Sonoma or Commodore Sloat ordered our national ensign unfurled over the Custom House at Monterey, the dreamer uttered this bold prophecy regarding railway building:

"You will see that it will change the whole world, allow us to traverse the globe in thirty days, civilize and Christianize mankind, and place us in the center of the world, compelling Europe on one side and Asia and Africa on the other, to pass through us."

For twenty years he persisted, when finally, his health broken, his private fortune gone, help came, but it came too late for him—other routes and other plans had won preference. He is known as the first martyr to the splendid

enterprise. Before taking leave of him it is fitting to quote from a report of the House Committee on Roads and Canals, which after considering one of his carefully prepared memorials paid him this tribute:

"Mr. Whitney has been unremittingly engaged, at his own expense, since 1841, in collecting information on the subject . . . and we are indebted to him for the origination of the project, for the maturity of the first plan, for the large amount of practical information he has brought to bear upon the subject, and for the awakening of public attention to importance."

The great objective, during the preliminary discussion of a railroad to the Pacific, had been a new highway to the Orient—the aim was to reach China, Japan and India. That the West itself was worthy of consideration began to dawn upon the minds of Congressmen only after the world-famous California gold discoveries. Thenceforth there arose, here and there, a lone prophet to picture "the vast empire that would awaken with the first magnetic touch of the steel-shod feet of the iron horse." The early dreams of those who would have pierced the great American Desert for the trans-Pacific trade resulted in the realities of our great trans-Mississippi domain, which has doubled our national heritage.

Clamor for Better Transportation

Historians have vied with each other in extolling the herculean labors of early western travelers, trappers, and traders—and properly so, for the explorations of these men did much to make known the resources of the great West. But the dearth of accurate data and scientific information was overcome, in large measure, only by the great series of reconnaissances known as the Pacific railroad surveys of the years 1853 to 1855—and this after at least six distinct routes had been urged upon the atten-

tion of Congress. These surveys, as we shall see, afforded conclusive evidence that between the Mississippi and the Pacific there existed several practicable routes; four of the now five generally recognized transcontinental routes were explored and recommended.

There were numerous trails leading to the Pacific after the acquisition of California and Oregon, and especially after the coming of the vanguard of the gold hunters; but these were utterly—even ludicrously—inadequate. Nevertheless, one of their best services, admirably expressed by Professor Paxson, was that they "revealed the possibility and early necessity of railroad routes extending from ocean to ocean."

Now that the Oregon question had been settled and California had become an integral part of the United States, this new territory on the Pacific must be afforded an adequate defense. As the thousands fought their way westward into the new land of El Dorado, and marvelous tales came back to be circulated among the folks at home, statesmen waxed eloquent in the halls of Congress, and the burden of many a speech was that our new Pacific possessions must be adequately defended and that a railroad was the cheapest and speediest means of defense. In the event of trouble with England, it was pointed out, the sea routes would be cut off to American vessels, and any overland expeditionary force would not arrive until too late. Petitions came pouring in from all sections of the country urging the speedy construction of "a national highway as a national necessity."

With the unprecedented growth of population, and as California leaped at once into full-fledged statehood, government materials—pertaining to peace and war alike—had to be transported to the Golden Gate in increasing amounts. Moreover, the intolerable slowness and excessive costs of the mails, of the express and freight, and

most of all of human transportation—all this fairly cried out for a transcontinental railroad as an immediate undertaking to be sponsored by the national government.

Nevertheless, such were the sectional prejudices and local jealousies exhibited in Congress that for year after year no workable agreement for the building of the road could be reached. And, besides, the very magnitude and daring of the enterprise were such that no helpful precedent could be found; and there was always the lurking fear—often openly expressed by highly intelligent leaders—that the scheme was after all purely chimerical, utterly beyond the range of practical accomplishment. In 1848, the New York *Herald* seriously avowed, "This whole project is ridiculous and absurd. Centuries hence it will be time enough to talk of such a railroad." On the other hand, the imperative necessity of immediate rail connection between the Far West and the Atlantic seaboard was urged more and more vehemently with every passing day.

Unfortunately, the enterprise was seriously retarded by bitter prejudice, some senators even going so far as to announce their hostility on the ground that "the building of a railroad to the Pacific would mean the loss to the Atlantic seaports of the bulk of their commerce with the interior states." Other members, however, including Chase, Seward, Cass, Dodge, and Gwin, entertained no such sentiments, rising to the heights of real national patriotism. Gwin eloquently appealed to each of his colleagues "to lay his sectarian principles aside and come up to this great work as an American, with singleness of purpose, scorning all sectionality, and looking at the common good of our common country, with a fixed determination that it shall be completed, and that, too, as rapidly as unrestricted means and human energies can accomplish it."

Finally, after eight years of almost continuous con-

sideration, Congress took a definite step toward the accomplishment of the project by appropriating $150,000 "to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean," and report on or before the first Monday in February, 1854. Acting under instructions of Secretary of War Jefferson Davis, five thoroughly organized exploring parties entered upon their task in the spring of 1853. Additional appropriations were subsequently made and the time extended on all surveys.

In due time the results were published in the form of thirteen large volumes, richly illustrated, and containing an unprecedented storehouse of new information concerning the West. The extensive surveys had proved conclusively that there existed several practicable routes for a railroad from the Mississippi to the Pacific, furnishing, as a by-product, extensive and invaluable data in the geological, zoological, and botanical reports.

In 1855, the Secretary of War made his recommendation to Congress, advocating the southern, or thirty-second parallel route as being the most practicable—least expensive, shortest, and least subject to interruption by climatic conditions. Naturally, he was accused of permitting sectionalism to dominate his judgment, though there appears to be no substantial reason to doubt that he was actuated by absolutely unpartisan and honorable motives.

Still the prospect of actually building the road seemed no whit brighter in 1855 than when California entered the Union, and this in spite of the fact that California, as the most interested state, agitated the subject by every possible means, bringing "every available influence to bear in favor of the immediate commencement of the work." Indeed, her very admission as the sixteenth free state helped to transform mere localism into sectional-

ism, put the South and the slavery institution on the defensive, and hasten the day of the impending national crisis. Therein lies a hint of the insurmountable difficulty of a nationally constructed and operated Pacific railroad. In view of the political conditions it was out of the question to induce private capital to undertake such an enterprise.

The outbreak of the Civil War definitely ended the prospect of a southern route; but it also quickly crystallized the demands for improved communication and more adequate transportation between the eastern centers and the opulent Far West. The most potent, most convincing arguments for construction were recognized as military and political rather than commercial. President Lincoln regarded it not only as a military necessity but as an instrument in keeping the Pacific Coast in the Union.

The War had scarcely been begun when on June 28, 1861, the Central Pacific Railroad Company was organized, with Leland Stanford, president, Collis P. Huntington, vice-president, Mark Hopkins, treasurer, and James Bailey, secretary. There were not wanting still in California—as likewise there were not in Washington and New York—those who considered it nothing short of a "crazy notion" to try to build a railroad over the Sierra Nevada. "You might as well try to build a road to the moon!" insisted one settler to the writer's father in the heat of argument one day. "Let me tell you, man," came back the instant reply, not without exasperation and with haughty indifference to what then seemed rank hyperbole, "the government could *bore a hole right through those mountains* if it wanted to!"

The man who is to be credited, above all others, for planning and executing the engineering feats that should put to final rout the jeers and ridicule heaped upon the "crazy notion," was Theodore D. Judah, an engineer of

eminent ability, conspicuous for his boldness, and of marked originality and resourcefulness. He was the first man to make an exhaustive and "thorough railroad survey" over the Sierra Nevada. His survey extended 128 miles east of Sacramento, to a point some five miles down the Truckee River Valley.

Railroad Acts of 1862 and 1864

The Pacific Railroad Act of July 1, 1862, granted permission to build; but more than that, it gave to the Central Pacific Company a free right-of-way of four hundred feet width across government lands, besides the necessary "grounds for stations, machine shops, etc., with the privilege of taking earth, stone, timber, and other materials from the public lands adjacent to the line of said road for purposes of construction." There was a grant of five alternate sections for each mile of public land on each side of the track, "and within the limits of twenty miles on each side of the road." The Secretary of the Treasury was instructed to issue to the company United States six per cent thirty-year bonds in amounts from $16,000 to $48,000 per mile. The company on its part was required to construct the road at a minimum rate of twenty-five miles a year and to reach the Nevada border within four years. The entire line, including Central Pacific and Union Pacific, was to be operated and used for all purposes of communication, travel, and transportation, so far as the public and the government were concerned, as one connected, continuous line.

The Act of 1864, which is rightly regarded as amendatory to the previous Act, was made possible only after Congress became convinced that the enterprise could not go forward without additional help from the government. It doubled the land grants and otherwise augmented the inducements to suppliers of capital, who,

however, were still far from eager to bring out their money for the great railroad project.

Nevertheless, an important effect of the grant of generous Federal assistance was the definite enhancement of the company's credit, enabling it to float its own first-mortgage bonds. In all, approximately $41,500,000 was directly attributable to aid by the Federal government; that a considerable proportion of this went to the enrichment of a few individual stockholders in the form of "an extravagant share in the unearned increment," there is, of course, no doubt. Thus it is easy for the critic of today to pronounce the land-grant policy a mistake—if not something worse—much less defensible than the bond subsidy.

The actual work of grading for the road was begun at Sacramento on January 8, 1863. At the public ceremony inaugurating construction—so it is recorded—some persons of little faith were irreverent enough to laugh when the president, Leland Stanford, "War Governor" of California, used a shovel for the purpose of filling an unattractive mudhole at the foot of K Street with sand from a waiting wagon. Notwithstanding such levity and the inclemency of the weather, there was commenced on that day the first railroad to be built beyond the line of civilization, and construction went forward to such effect that the next half dozen years witnessed an achievement that stands unique in the annals of transportation. This, however, is not to deny that the difficulties to be met, the obstacles to be overcome, were so grave and persistent as to dishearten any but the bravest souls.

Though the completion of a transcontinental railroad had been urged as a military necessity for the defense of the national union, the Civil War was almost ended before actual construction had been more than fairly begun. In midsummer of 1864, while the outcome of the war was

still uncertain and necessary capital was not forthcoming, the work of the Central Pacific came to a halt at Newcastle, only thirty-one miles from Sacramento. "That was the time," Crocker is quoted as saying at a later date, "when I would have been very glad to take a clean shirt and lose all I had, and quit." In any event, it is worthy of remark, he did not quit!

Racing with the Rails

The Union Pacific Company, unlike the Central Pacific in relation to final control, was created directly by the United States Government and placed under the limitations of a Federal charter. The organization dates from October, 1863. General John A. Dix was president and Thomas C. Durant, vice-president and business manager.

The route for the Union Pacific, as finally planned, lay entirely through the organized territories which, as every informed citizen is aware, are under the direct supervision of the national government. Delays in building operations were such that construction from Omaha westward did not begin until the summer of 1865, more than eighteen months after work on the Central Pacific had been begun at Sacramento; up to the end of that year only forty miles of track had been actually laid. Whereas the Central Pacific had found itself confronted almost immediately with the forbidding mountains, a level plain stretched out before the Union Pacific for a distance of five hundred miles. The California company found it necessary to have machinery and supplies sent out from the East via Cape Horn or Panama, involving enormous outlay of time and money; the Union Pacific was compelled to drag ponderous materials overland from railway terminals in Iowa, or to depend on the steamboats on the Missouri River. A barrier to the Central Pacific, more serious than had been known to previous railroad

building, was found in the Sierra Nevada; but on the other hand the mountains supplied the timber for ties, trestles, and long stretches of snow-sheds, while the Union Pacific proceeded over the vast expanse of treeless prairie.

After several interruptions and irksome delays, usually occasioned by stress of financial difficulties, the summit of the Sierra Nevada was crossed in December, 1867, at an elevation of 7,042 feet. The eastern boundary of California was triumphantly crossed and the work of construction, gathering fresh momentum, continued eastward across Nevada.

The great difficulty of constructing a road over the mountains is well illustrated by reference to the system of snow-sheds, costing upwards of $2,000,000, which made it possible to operate the trains during the winter months. The galleries were described by the chief engineer as being "built along the side of the mountains, where the slope of the roof conforms with that of the mountain, so that the snow can pass over easily." In some places, "massive masonry walls were built across ravines to prevent snow from striking the sheds at right angles." Creed Haymond, general solicitor for the Central Pacific, made this statement in his oral argument before the Select Committee of the United States Senate:

"The word 'snow-sheds' does not convey to the Eastern mind a knowledge of what these structures are. In general, they are masses of the heaviest timber, braced and cross-braced in every direction. Some portions of them had to be built—and are maintained—strong enough to support snow-drifts from sixty to one hundred feet in depth, while other portions are built on the exact slope of the mountain sides, so that the avalanche, with the trees and stones which accompany it on its descent, may sweep over the structure without endangering the

trains which are moving under its protection. Solid as these structures are, so terrible are the mountain storms that drifting snows will penetrate and fill them. Sixteen first-class locomotives are frequently necessary to use behind a single snow-plow in the work of clearing them. The cost of one mile of this so-called shed has exceeded $170,000."

The Central Pacific drew its labor supply almost wholly from the Chinese "coolies," many of whom were imported expressly for that purpose; the Union Pacific placed its main reliance in the Irish immigrants. After Appomattox many demobilized soldiers obeyed a natural impulse to go West, some thousands finding employment in railway construction. As many as 25,000 workmen were employed during the final period.

The Central Pacific building eastward and the Union Pacific building westward entered upon a gigantic competition the like of which had never been witnessed in railroad construction. Because of the liberal subsidy provided by the government for every mile of road, it was profitable for the leaders to urge their respective workmen to their utmost speed. As the gap between East and West rapidly narrowed, the spirit of rivalry between the companies increased in intensity. A paragraph from a contemporary newspaper aids in visualizing the animated scene:

"Track laying on the Union Pacific is a science. . . . On they came. A light car, drawn by a single horse, gallops up to the front with its load of rails. Two men seize the end of a rail and start forward, the rest of the gang taking hold by twos, until it is clear of the car. They come forward at a run. At the word of command the rail is dropped in its place, right side up with care, while the same process goes on at the other side of the car. Less than thirty seconds to a rail for each gang, and so four

rails go down to the minute! . . . The moment the car is empty it is tipped over on the side of the track to let the next loaded car pass it, and then it is tipped back again, and it is a sight to see it go flying back for another load, propelled by a horse at full gallop at the end of sixty or eighty feet of rope, ridden by a young Jehu, who drives furiously. Close behind the first gang come the gaugers, spikers, and bolters, and a lively time they make of it. It is a 'grand anvil chorus' that those sturdy sledges are playing across the plains. It is in triple time, three strokes to the spike. There are ten spikes to a rail, four hundred rails to a mile, eighteen hundred miles to San Francisco, twenty-one million times are those sledges to be swung, twenty-one million times to come down with their sharp punctuation, before the great work of modern America is complete."

Charles W. Crocker proved to be the brilliant strategist for the Central Pacific. With careful preparation and consummate cleverness he succeeded in establishing the world's record in railroad building for a single day when, on April 29, 1869, he was able to report 185 feet more than ten miles of track laid.

The final junction was effected at Promontory Point, Utah, five miles west of Ogden, 1,086 miles from Omaha, and 689 miles from Sacramento. Congress decreed by joint resolution that "the rails shall meet and connect, and form one continuous line."

Driving the Golden Spike

The tenth day of May, 1869, was memorable in the annals of California. It was on that day, on a desolate spot in Northern Utah, that in the presence of several hundred witnesses, including personages of importance in the political world as well as in business, the impressive ceremony was performed which united with bands of

steel in indissoluble union the East and the West of the United States of America. The details of what occurred on that most significant and dramatic occasion are told in the classic description by John P. Davis:

"The last spike remained to be driven. Telegraphic wires were so connected that each blow of the sledge could be reported instantly in most of the large cities from the Atlantic to the Pacific; corresponding blows were struck on the bell of the City Hall in San Francisco, and with the last blow of the sledge a cannon was fired at Fort Point. General Safford presented a spike of gold, silver, and iron, as the offering of the Territory of Arizona; Tuttle, of Nevada, performed with a spike of silver, a like office for his State. The tie of California laurel was put in place, and Doctor Harkness, of California, presented the last spike of gold, in behalf of his State. A silver sledge had also been presented for the occasion. The driving of the spike by President Stanford and Vice-President Durant was greeted with lusty cheers, and the shouts of the six hundred persons present, to the accompaniment of the screams of the locomotive whistles and the blare of the military band, in the midst of the desert, found hearty and enthusiastic echoes in the great cities East and West.

"After the last spike had been driven, the Central Pacific train was backed up, and the Union Pacific locomotive, with its train, passed slowly over the point of junction and back again; then the Central Pacific locomotive, with its train, went through the same ceremony.

"The 'driving of the last spike' was announced simultaneously by telegraph in all the large cities of the Union. . . . Business was suspended and the longest procession that San Francisco ever had seen attested the enthusiasm of the people. At night the city was brilliant with illuminations. Free railway trains filled Sacramento

with an unwonted crowd, and the din of cannon, steam-whistles, and bells followed the final message. At the Eastern terminus in Omaha, the firing of a hundred guns on Capitol Hill, more bells and steam-whistles, and a grand procession of fire companies, civic societies, fraternities, citizens and visiting delegations from surrounding places echoed the sentiment of the Californians. In Chicago a procession four miles in length, a lavish display of decorations in the city and on the vessels in the river, and an address by Vice-President Colfax in the evening, were the evidences of the city's feeling. In New York, by order of the mayor, a salute of a hundred guns announced the culmination of the great undertaking. In Trinity Church the *Te Deum* was chanted and prayers were offered, and when the services were over the chimes rang out *Old Hundred*, the *Ascension Carol*, and national airs. The ringing of bells at Independence Hall and the fire-stations in Philadelphia produced an unusual concourse of citizens to celebrate the national event. In the other large cities of the country the expressions of public gratification were hardly less hearty and demonstrative."

The telegraphic dispatch announcing the event consummated conveyed this historic message: "*The last rail is laid! The last spike is driven! The Pacific Railroad is completed!*" The verses of Bret Harte on the meeting of the Central Pacific and Union Pacific at Promontory are wanting in neither rhyme nor reason:

> What was it the Engines said,
> Pilots touching,—head to head,
> Facing on the single track,
> Half a world behind each back?
> This is what the Engines said,
> Unreported and unread.
> Said the Western Engine, "Phew!"
> And a long, low whistle blew.
> "Come, now, really, that's the oddest

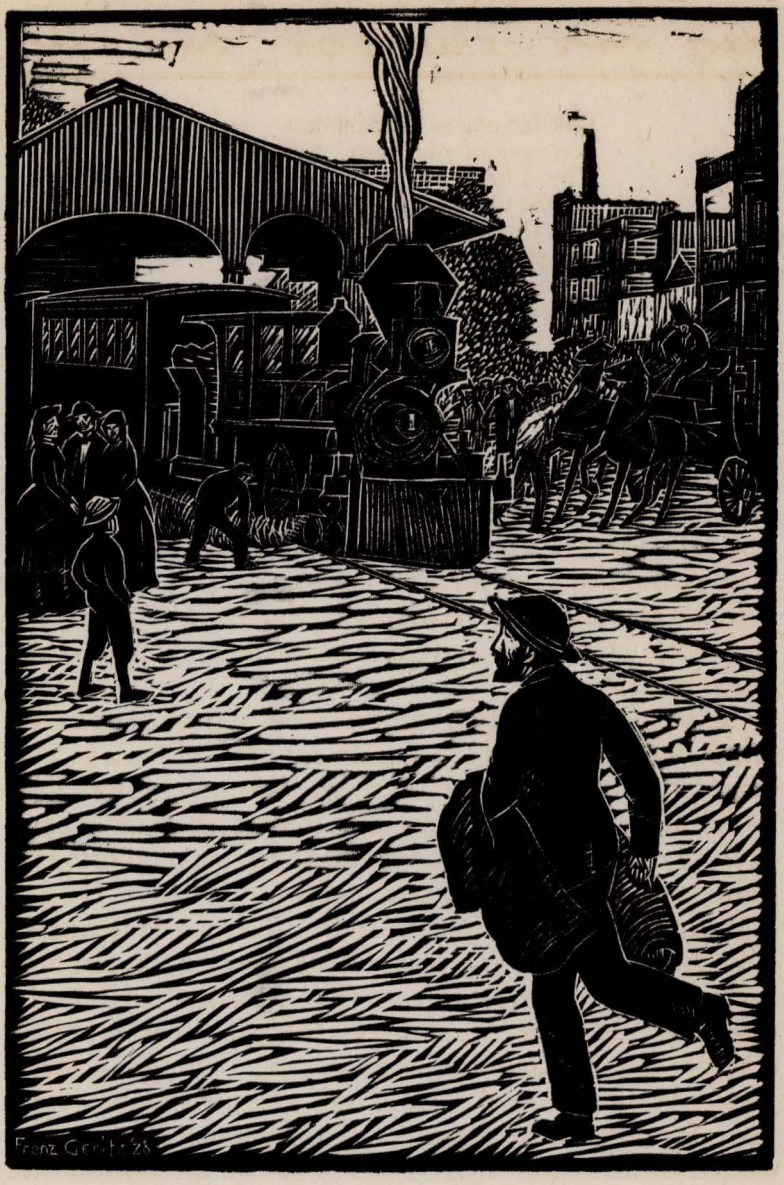
Talk for one so very modest.
You brag of your East! You do?
Why, I bring the East to you!
All the Orient, all Cathay,
Find through me their shortest way;
And the sun you follow here
Rises in my hemisphere.
Really, if one must be rude,—
Length, my friend, ain't longitude."

In San Francisco the celebration began, prematurely, on the 8th of May and continued practically without interruption through the 10th. At Sacramento the bells and whistles of thirty assembled locomotives led the general chorus of all the bells and whistles of the city in "one prolonged demonstration of joy."

In his commemorative address delivered in Sacramento, Governor Henry H. Haight uttered an eloquent truth when he said:

"It seems singularly appropriate to signalize the centennial anniversary of the settlement of California by the completion of this crowning work of Saxon civilization, which links together in iron bonds the two great oceans of the world, and carries California at one bound into the center of the great family of nations."

When the transcontinental trains were placed in operation over the newly completed lines between Omaha and Sacramento, the Pullman cars that were included easily demonstrated their superiority over all other types in comfort and convenience afforded the through passengers. At best, travel was rough and accommodations poor for some time because of hasty construction and dearth of all kinds of facilities; but the discomforts of pioneer railroading were quickly set at naught when viewed in comparison with the enormous benefits conferred. Before the completion of the railroad the trip from New York to San Francisco via Panama required


Franz Gerlach '23

thirty days and that via Cape Horn from four to six months. The new road brought San Francisco to within six days of New York.

The End of the Frontier

The fifteen years following the completion of the Pacific railroad embrace the final period in the life of the last American frontier. The driving of the golden spike at Promontory Point had signalized pushing the Indians to either side of a narrow strip across the plains and the crossing of the two great mountain ranges by a single track of iron, but the final overthrow of the frontier, to the north and south over vast areas of country uninhabited by white men had but begun. The actual annihilation of the American frontier was compassed by the chartering, during the years when the Central Pacific was under construction, of a series of railroads to the north and to the south. These included the Northern Pacific, authorized by its charter granted in 1864 to establish connection between Lake Superior and Puget Sound points; the Atlantic and Pacific, chartered in 1866, to construct a road from Springfield, Missouri, to the Pacific via Albuquerque, connecting near the eastern boundary of California with the recently organized Southern Pacific of California; and the Texas Pacific, chartered early in 1871 and known as the last of the "land-grant railroads," planned to be built from eastern Texas to San Diego. The Southern Pacific, however, by its vigor and aggressiveness, forestalled the Texas Pacific from passing beyond El Paso and itself actively pushed eastward, meeting the Texas Pacific at the Rio Grande.

Thus a series of new Pacific railroads were just beginning construction as the Union and Central Pacific roads were completed and opened to traffic. But the great panic of 1873 brought their first period of construc-

tion to a sudden halt, and there ensued a period of several years of inactivity—the Pacific railways, in common with virtually all American industrial establishments, remaining in a practically stationary condition. After resumption of specie payment in 1879, however, readjustment was rapid, the storms of reconstruction were safely weathered, and within five years more five new transcontinental routes were open to traffic—the frontier had literally disappeared. Henceforth, every section of the wide Republic was open to colonization.

While the Atlantic frontier had been sweeping westward, the newer Pacific frontier had begun to drift eastward. Westward and eastward the barriers were forced by the iron steeds. "They penetrated the prairies and punctured the desert," and, "in the meeting of the two sides," continues Bancroft, "was sent forth the last sigh of savagism." When the newer railroads added longitude to the latitude of the movement, what Frederick J. Turner has designated as "the first period of American history" had come to its end.

Chapter VII

CHAPTER VII

The Railroad in California

IT IS NO part of the present purpose to present a history of railroading in California —that would indeed be an ambitious undertaking. The ramifications of such a history in the realms of politics as well as commerce and finance are exceedingly intricate. Charters were sought for literally scores of local companies in the aggregate, many of which failed completely to materialize; but in the drama of the Railroad in California, extending over an entire generation, the stellar rôle was carried by the Central Pacific and its other self, the Southern Pacific.

The builders of the commonwealth of California were not slow to perceive the importance of transportation in the development of their new state. Acts and resolutions favoring the construction of railroads were among the first proceedings of the legislature. The men who had made their way to the land of gold were in a hurry—and the distances in California were as forbidding as they were magnificent! Along with the rising tide of interest in the proposal for a transcontinental railway, there developed, quite naturally, an agitation for local railways as well. The feasibility of a road from Sacramento to Coloma was discussed as early as 1850 and several

different plans were advocated and preliminary surveys made—but that was the end of it.

Of the several local projects, the first one attempted that finally succeeded was to connect San Francisco and San José. The affairs of the road languished, however, for several years after the first agitation in 1849-50, and before the obstacles were fully overcome and the road completed, a rival in the north announced its actual accomplishment.

Beginnings

The first railway service to be put into actual operation in California was that of the Sacramento Valley Railroad, running from Sacramento to Folsom, a distance of only twenty-two and a half miles. This road was opened for business on Washington's Birthday, 1856, and the event may be said to mark the dawn of a new era in transportation and industry for the Pacific Commonwealth. Within six years an extension had been constructed from Folsom to Lincoln, and about the same time the California Northern Railway connected the towns of Marysville and Oroville, in the upper Sacramento Valley. In 1864, San Francisco was connected by railroad with San José, about 45 miles distant, and the road was extended to Gilroy, at the southern end of Santa Clara Valley, the same year that the Pacific railroad was completed. At about the same time the completion of the California Pacific Railroad connected Sacramento with Vallejo, and a branch extended north from Davis to Marysville. Thus was being woven the network of little railroads in California, with all their benefits, but not without serious problems for the people of the state as well as the promoters of the various enterprises.

The first locomotive to be made and used in California was manufactured at the Union Iron Works in San Fran-

cisco for use on the San José road. It should be added, however, that an earlier engine had been turned out by the Vulcan works for use in Oregon, as early as 1862. The establishment of the railroad shops at Sacramento was the signal for much activity; in the year 1881 they turned out seven locomotives, 100 railway cars, and nearly 10,000 wheels.

Strange as it seemed to the Central Pacific Company, a grant was made to the Western Pacific to connect its lines with San José. It was quickly perceived that no transcontinental railroad could be expected long to make Sacramento its terminal—somebody was certain to build a direct line to San Francisco Bay, thence by ferry across to the metropolis—commercial center of the entire coast as well as its chief shipping point. Accordingly, the directors of the Western Pacific Company being involved in certain financial difficulties and offering to sell to the Central Pacific, the latter purchased the incomplete road of the former, not including the land grant, however. So the Stanford associates completed the road through to San José, a distance of 123 miles. After consolidating in 1870 with a short railroad called the San Francisco, Oakland and Alameda Road, which extended from a point on the line of the Western Pacific at Niles to the western shore of San Francisco Bay, the Central Pacific had, for the first time, "a through line to San Francisco."

In Southern California

The movement which culminated in the building of Southern California's first railroad was begun by Phineas Banning, owner of the stage and freighting line operating between Los Angeles and Wilmington. After several years of agitation the state legislature passed a bill, in 1868, authorizing subscriptions by the county

and the city of Los Angeles for a railroad. Despite strong opposition the vote for a bond issue was favorable; work was begun in September, and in about thirteen months the first train made the run from Los Angeles to Wilmington over what was called the Los Angeles and San Pedro Railroad. Meanwhile, the Southern Pacific was being pushed actively southward from the San Francisco Bay region. In 1872, the people of Los Angeles decided by vote to turn over their holdings in the Los Angeles and San Pedro Railroad to the Southern Pacific as a partial subsidy to the company for entering the southern centers.

The early success of the Los Angeles and San Pedro Railroad proved to be an incentive for building a second railroad. The result appears in the incorporation, in January, 1875, of the Los Angeles and Independence Railroad Company and the completion of the road within a year. The ambitious purpose of this company was to build from Santa Monica through Los Angeles and San Bernardino, thence via Cajon Pass to Independence, in Inyo County. During the hard times the road had a real struggle for existence: construction east of Los Angeles was halted by the opposition of the Southern Pacific, which, a little later, purchased the line outright, and thus became owner of the two railroads of Los Angeles.

After the hard times of the seventies Los Angeles began to experience very rapid growth. The phenomenal development was not halted till the wildly extravagant methods of promotion that characterized the boom of 1887 were suddenly checked by the collapse of the boom. The entrance of the Southern Pacific into the southland gave Los Angeles a transcontinental railroad, but the route east was very roundabout—via Sacramento and Ogden, thence over the Union Pacific lines. The need for a more direct route east became yearly more imperative.

In 1888 a franchise was obtained for a railroad along the east bank of the Los Angeles River, which was intended to provide terminal facilities for the Union Pacific, at that time planning its road across Nevada to Los Angeles. The project was temporarily abandoned, to be taken up a little later by a group of St. Louis capitalists. The road, which was called the Los Angeles Terminal Railway, was built, extending from Pasadena and Glendale, through Los Angeles, to Rattlesnake Island, San Pedro, being completed in 1891. It was the hope of the builders that it would become the terminus of a great transcontinental line. In 1900, United States Senator W. A. Clark of Montana purchased the road, which later became the terminus of the Los Angeles and Salt Lake Railroad.

The Southern Pacific

The Southern Pacific Railroad of California was incorporated in December, 1865, by the Stanford-Huntington group. The company was chartered to build a railroad southward from San Francisco, through the counties of Santa Clara, Monterey, San Luis Obispo, Tulare, and Kern, and thence to Los Angeles and San Diego. It was proposed to build east from San Diego to the boundary of the state and there to make connection, presumably, with the Atlantic and Pacific.

Reasons for the granting of a charter to the Southern Pacific Company to build southward from the Bay of San Francisco were not far to seek. Such a railroad would be the surest agency for opening up vast agricultural areas which were potentially among the richest of the state; by affording a means of rapid transportation it would insure a widened market and thereby greatly enhance the production of the semi-tropical fruits of Southern California; and by rendering available the

fabulous mineral wealth of Arizona and New Mexico it would quicken and stimulate the production of the precious metals and other considerable commodities.

Two years later the decision was reached to proceed from Gilroy through the Pacheco Pass into the upper San Joaquin Valley, thence southward through Stockton, Modesto, Fresno, to Bakersfield, and into Southern California.

The driving of the last spike on the Southern Pacific at Soledad, September 6, 1876, signalized the entrance into Los Angeles of its first transcontinental railroad connection. When the line reached the Texas Pacific on the Colorado in April, 1877, Los Angeles was given its second transcontinental railroad. Being now supplied with three local roads and being the terminus of two transcontinental lines, there was considerable activity in the southern city, while the assessed valuation of the county had risen from twelve million to thirty-five million dollars within two years of the acceptance of the Southern Pacific's proposition—by 1890, the amount had reached fifty millions.

At present, the Southern Pacific rail lines serve more than 4,000 points in eight western and southwestern states, as well as the West Coast of the Republic of Mexico, and with their connections offer a choice between four through routes for transcontinental travel to and from the Pacific Coast. The main stems are four in number: (1) Sunset Route, between San Francisco and New Orleans, via Los Angeles and El Paso; (2) Golden State Route, between Los Angeles and Chicago, via El Paso and Kansas City; (3) Overland Route, between San Francisco and Chicago, via Sacramento, Ogden, and Omaha; (4) Shasta Route, between San Francisco and Seattle, via Sacramento and Portland.

Some of the fine trains, which have become famous

because of their safety and luxurious equipment are the "Sunset Limited," the "Argonaut," the "Californian," and the "Apache." Two famous day trains, the "Daylight," which follows El Camino Real of the padres, and the "San Joaquin," which passes over the Tehachapi loop and through the great San Joaquin Valley, are operated by daylight between Los Angeles and San Francisco, as are also the well known night trains, "Lark," "Owl," and "Padre."

The Southern Pacific Steamship lines afford regular service by sea between New York and New Orleans as well as connections with the Oregon-Washington Railroad and Navigation Company and the Oregon Railroad and Navigation Company.

Viewed in its entirety, the Southern Pacific system ranks as one of the most extensive and influential in the country, and it embraces a considerable number of subsidiary roads.

Valley Road and Santa Fé

The wide-spread dissatisfaction with the Southern Pacific showed itself in persistent complaints against local freight rates held to be highly discriminatory in character, the monopolistic tendencies of the powerful corporation, and its alleged dominating influence in the politics of the state. The antagonism of much of the shipping public was cumulative. For years the Tariff Association of California did what it could to encourage water competition with the railroad.

Complementary to this campaign and as a method of influencing local rates, it was urged in San Francisco that there should be a competing railroad leading from the bay district to the interior counties. Many plans looking to this end were submitted, most of which sought a connection with the Santa Fé road. Thus, in 1892, the San

Francisco and Great Salt Lake Railroad Company was formed. Extensive surveys were made and other preliminary work done; but, after being overtaken by the panic of 1893, the project was withdrawn. During the following year new plans were adopted and a prospectus circulated, which brought forth considerable encouragement from monied men of San Francisco. Actual subscriptions, however, were slow and were difficult to secure.

In the autumn of 1894 a second campaign was launched, the new enterprise being called the San Francisco, Stockton and San Joaquin Valley Railway Company. The projected route was generally from San Francisco via Stockton and Fresno to a point in Kern County. Again subscriptions proved to be slow, it appearing that no citizen of sufficient prestige was in active leadership.

The third definite attempt, early in 1895, brought success, due to the energy of Mr. Claus Spreckels, leading sugar refiner of the Pacific Coast. His subscription of half a million dollars, augmented by $100,000 each from his sons, John D. and Rudolph Spreckels, brought swift change to the whole complexion of the enterprise. Wide publicity was given to the new San Francisco and San Joaquin Valley Railway Company, and large numbers of small and fractional subscriptions were sought. As a result, to employ the words of Professor Stuart Daggett, "it may be said that there has probably never been a commercial enterprise launched on the Pacific Coast so advertised, and praised, and predicted about as was the project of the San Joaquin Valley Railway. Participation in the movement became a test of local patriotism."

Actual construction was begun at Stockton late in 1895, and by the end of June, 1898, the company reported a total of 278.91 miles. The road, however, was destined to have a very brief independent career, for in December,

1898, probably in accordance with the policy of some of its leading promoters, it was purchased by the Atchison, Topeka and Santa Fé, to the keen disappointment of many of its loyal supporters who had been led to believe that the Valley Road was to be and remain a "people's road, owned by the people, and operated in the interests of the people."

When the Santa Fé began negotiations for the purchase of the Valley Road, it was operating from Chicago west to the Mojave, Los Angeles, and San Diego, with no route over the Tehachapi to Bakersfield. The purchase of the San Francisco and San Joaquin Railway gave the Santa Fé control over the system from Stockton to Bakersfield, with a branch from Fresno through Visalia and Tulare and an extension under construction from Stockton to Point Richmond; but the only way of entering the San Joaquin Valley from the south was by some traffic arrangement with the Southern Pacific, which was eventually brought about, thus permitting the Santa Fé to enter central and northern California.

While the Valley Road undoubtedly failed to fulfill the hopes of its projectors, and while from a purely financial point of view it did not justify its organization, it may nevertheless be deemed justifiable on the broader grounds of local rate reductions and of subsequent development of the Great Valley of California, which has come to be in reality a vast, productive inland empire.

The entrance of the Atchison, Topeka and Santa Fé Railroad into Southern California—as was quite natural under the circumstances—met with strenuous opposition from the Southern Pacific. Reaching Albuquerque in 1873, the Atlantic and Pacific Railroad suffered from the financial panic of that year to such an extent that it was compelled to suspend operations for a time. Meantime, the Santa Fé, pushing vigorously westward and eager to

reach the Pacific Coast, was enabled to effect a consolidation with the Atlantic and Pacific in 1875, the combined companies then proceeding to build a main line jointly from Albuquerque, New Mexico, to Needles, on the Colorado River. The intention clearly was to extend the road to Los Angeles and eventually to San Francisco; but the strongly intrenched Southern Pacific stood at the gateway like a powerful watchdog, and the Santa Fé was compelled to wait.

A railroad was completed from San Diego to San Bernardino in the autumn of 1883 by the California Southern Company, to which, after protracted negotiations, the Southern Pacific sold its extension from Barstow to Needles. About two years later connection was established between San Bernardino and Barstow, thus giving the California Southern a line from San Diego to Needles. When this road, in October, 1886, passed under the control of the Santa Fé, that railroad finally secured entrance into the state. During the following year the line was extended westward from San Bernardino to join the San Gabriel Valley Railroad, which had been built through Pasadena eastward from Los Angeles. Another important milepost was thus reached in the railway history of the southern metropolis with the completion of the Santa Fé road, in May, 1887.

Later the Santa Fé acquired the road to Mojave, from where, by using the Southern Pacific tracks, it connected with the Valley Road at Bakersfield, finally absorbing the latter and thereby establishing through connection with San Francisco. It has been well said that the history of the Santa Fé Railway is the history of its combinations with other roads. Its various lines have been extended into twelve states—California, Nevada, Arizona, New Mexico, Colorado, Texas, Louisiana, Oklahoma, Kansas, Missouri, Iowa, and Illinois. It traverses the

romantic land of the early conquistadores and padres, of the trappers and traders, of the pathfinders and pioneers of the great Southwest. The route of the Old Santa Fé Trail, as well as of the National Old Trails auto road, closely parallels the main line of the Santa Fé Railway through New Mexico, Colorado, and Kansas. Just pride is taken in the fine trains operated in through service, among which are the "Navajo," the "California Limited," the "Missionary," the "Scout," and the extra-fare train called the "Chief."

With an operated mileage of upwards of 12,000 miles, this railroad now takes its place as one of the leading transcontinental systems of America. Five men deserve preferred mention among those leaders who helped to bring the Santa Fé through many grave difficulties and vicissitudes to its present place of commanding influence: C. K. Holliday, promoter and first president; A. A. Robinson, chief engineer and vice-president; William B. Strong, president from 1881 to 1889; E. P. Ripley, president from 1895 to 1920; and W. B. Storey, present president.

The Salt Lake

When Brigham Young decided to establish a Mormon colony near the shores of the Pacific, an expedition was organized at Salt Lake, which in March, 1851, set forth in the direction of a gigantic arrowhead which is said to have appeared to Young in a vision. Traveling through the Meadow Valley Wash and the southern Nevada desert to Dry Lake, the faithful colonists passed through Las Vegas Valley to the Mojave River, then through Cajon Pass. Following the point of the famous arrowhead on the mountain side, they were led to the San Bernardino Valley.

The Mormon Trail thenceforward for more than a quarter of a century was used as a mail and freight route

between Utah and Southern California, and the sign of the arrowhead was taken as the emblem of the Salt Lake Railroad, which followed the trail. After much negotiation and the organization of several different companies, railway construction along the Mormon Trail took tangible shape in 1896, when the Utah and Pacific laid seventy-five miles of rails to a point called Uvada on the boundary line between Utah and Nevada. Construction was temporarily halted through the influence of the powerful Southern Pacific.

The final selection of San Pedro and not Santa Monica as the location for Los Angeles Harbor ended the long and bitter contest with the Southern Pacific and was generally hailed as a great victory for the people. Greatly enhanced value was given to the railroads entering San Pedro. Senator W. A. Clark decided to assume the financial responsibility for building a railroad along the old Mormon Trail connecting the Los Angeles Terminal Railway with Salt Lake City. Late in 1900 the San Pedro, Los Angeles and Salt Lake Railway Company was organized, and a few months later it absorbed the Terminal road, together with its valuable water front and wharves at East San Pedro as well as its rights of way in Southern California. The new road extending from San Pedro to Salt Lake City was completed by the driving of the last spike on January 30, 1905. By connecting with the Union Pacific at Salt Lake this road gave to Los Angeles its fourth transcontinental railroad.

San Diego and Arizona Railroad

Perhaps the most significant piece of railroad development in California during the early twentieth century was the building of the San Diego and Arizona Railroad, —the realization of a dream of many years by making

San Diego the terminus of a transcontinental line and bisecting Imperial Valley from west to east.

Preliminary surveys for a road into San Diego had been begun or agitated as early as 1850, and five years later than that the city voted the proposed railroad 8,850 acres of land for rights of way and terminals. Just when prospects of success began to look most propitious the Civil War intervened and the railway scheme collapsed. A few years after the war there was renewed agitation and there was a real boom under the leadership of Thomas A. Scott. The boom reached its zenith at the time and on the occasion of a visit to San Diego of Senator John Sherman and other distinguished gentlemen in the early autumn of 1872. Suddenly, with the coming of the disastrous panic of 1873, the dream was rudely shattered and the plans sadly wrecked. Two years later, Collis P. Huntington aroused intense interest by paying a visit to San Diego—but he gave no assurances regarding the railroad project. Again there was a period of watchful waiting.

It was 1902 when the San Diego Chamber of Commerce set to work earnestly to try to bring the long-deferred hopes to realization. Each time as the goal had seemed near at hand there had been fresh disappointment. Would the dream of a railroad connecting San Diego directly with the East ever come true?

The momentous question was finally answered by John D. Spreckels, who, with his family, had been for some months sojourning in the southland city as refugees after the great San Francisco earthquake and fire of 1906. The unsuspecting townspeople went to bed in the evening of December 13, 1906, to see in the newspapers the next morning the startling, romantic announcement, "RAILROAD FROM SAN DIEGO TO YUMA NOW ASSURED." Then the San Diego and Arizona Railroad was incorporated; there was intense activity, and a unique

record was achieved of continuous construction throughout the entire period of the World War. The road itself, one of the most expensive per mile in the country, is one hundred forty-eight miles long, forty-four miles being in Mexican territory, its greatest elevation being at Hipass (3,657 feet) and its most depressed point at Seeley (about fifty feet below sea level).

The real builder was John D. Spreckels, long president of the company, who with A. B. Spreckels owned one half of the road, the other half being the property of the Southern Pacific Company. D. W. Pontius was general manager. The new road is indeed a boon not only to San Diego but to the marvelous, transformed Imperial Valley, which it puts on a main transcontinental railway; it brings tide water within one hundred forty miles, thus affording additional facilities for transporting incredible quantities of produce to the markets of the world. Together with the excellent scenic highway from the reclaimed desert, over the mountains to the sea, it brings the now opulent valley into vital touch with the modern and progressive city of San Diego, with whose destiny it is intimately linked.

The completion of the San Diego and Arizona Railroad in 1919 in the extreme southern portion of California constitutes an interesting illustration of the fact that railroad construction did not wholly cease with the advent and astonishing popularity of the automobile. Another instructive example of twentieth century railroad building and betterment is found in the extreme north—in the entrance into the state from Oregon. The railway from Portland south to San Francisco, naturally enough, runs down the Willamette Valley to Eugene, thence south through a hilly country, and finally over the Siskiyou Mountains into California. This route, however, involved certain very heavy mountain grades, and more-

over failed utterly to serve the extensive but at that time sparsely settled plateau of eastern Oregon.

After careful surveys were completed it was decided to construct the Natron Cut-off, or Cascade Line, from Eugene, Oregon, to Black Butte, California, which would make it possible to reduce the maximum grade from 170 to 95 feet per mile and to cut the distance by nearly twenty-four miles. Work was begun in 1909 and, after encountering some delays, was but recently pushed to completion. This portion of the Southern Pacific, which opens a wide area of hitherto undeveloped farm and timber land in eastern Oregon, now boasts an excellent roadbed and invites comparison with the best rail lines to be found anywhere.

In the Political Arena

When the actual construction of the Central Pacific Railroad was begun the combined assets of Stanford, Crocker and the firm of Huntington and Hopkins quite certainly were not in excess of $1,000,000—some estimates would hold them but a fraction of that amount. In any event, it is certain that the resources of the associates were in themselves totally and woefully inadequate to warrant such a stupendous undertaking as had been projected.

With the arrival of Theodore Judah, chief engineer, in Washington late in 1861, there began one of the longest, most persistent, most energetic lobbies ever known to our national legislature. Great difficulty was experienced by Crocker and Huntington when they attempted to sell stock in the eastern markets; and D. O. Mills testified to the grave obstacles in the way of negotiating loans on the best securities the company had to offer. We need not be in the least surprised to learn that every conceivable source of possible funds was assiduously sought out,

to ascertain whether this might promise loanable capital in private hands or public subsidies, either national or within the State of California. In the meantime, the Big Four were compelled to stretch their personal credit to the utmost—they had notes outstanding in all directions, bearing in many cases interest at the rate of ten to twelve per cent. It is recorded that Stanford at one time had overdrafts to an amount in excess of a million and a quarter.

In the end generous aid was extended to the transcontinental project by both local and federal authorities. Within California itself large contributions were made by cities—especially San Francisco—and by certain counties, as well as by the state through legislative acts. By the end of 1869, well over a million dollars in public funds had been subscribed, to say nothing of the assumption of interest on another million and a half for a twenty-year period.

But it must not be imagined that all this was accomplished with ease, without pressure and without guile. In fact—to refer simply to the local situation—there was almost infinite argumentation, in scores of communities, revealing every possible shade of opinion, as city was played against city in planning proposed railroad routes, as vigorous opponents of the company alleged blackmail on the part of the associates or their agents "as a condition of doing what the law compelled them to do," and as the corporation entered actively upon its long "political" career in California. Moreover, it must not be overlooked that, taken as a group, the smaller transportation companies, including stage and express companies, toll roads, and the Pacific Steamship Company, were—very naturally, under the circumstances—distinctly, in many instances bitterly, opposed to the granting of aid to the Central Pacific; indeed, some did not hesitate to

denounce the gigantic enterprise as a fraud in no uncertain terms.

Significant as were the grants of aid coming from within the state, they were financially incomparably less important than the land grants and subsidies from the Federal government. The Federal bond subsidy alone has been estimated at ten times the amount of combined state and county aids. As Professor Daggett has acknowledged, "it was well understood on the Pacific Coast that no transcontinental railroad could be built without the assistance of the national government."

Railroad in Politics

Running over a period of something like half a century, men in virtually all walks of life were making statements to the effect that in California the railroad was in politics, that political campaigns were waged on the issue of the railroads *versus* the people. In a remarkable letter, written in 1873, Eugene Casserly charged the Central Pacific with being a third party in the state politics, which held the balance of power between the Democrats and the Republicans and sought to control each or both of them. The letter continues:

"This third party has the usual attributes of a political party, the same apparatus and appliances. It has its leaders, its managers, its editors, its orators, its adherents. It selects these from both parties, but mostly from the party in the majority. Whether they call themselves Republicans or Democrats, and however they divide or contend on party issues, they move as one man in the cause of the railroad against the people. To that cause they give their first allegiance."

In a rapidly developing commonwealth like California, it should be remembered, all forms of industry—even agriculture itself—were for decades following state-

hood in a highly exploitative condition. The application of scientific principles—much less those of true conservation—was scarcely thought of except by an isolated moralist or prophet here and there. The railroad was diligent in propagating the doctrine that its own development and success were in complete accord with the interests of the general welfare—which would have been good economic teaching except for the undoubted monopolistic tendencies of the railroad and for the highly dynamic state of early California society.

Attempts at public regulation of railroads in California proved feeble and for a time quite unavailing. Indeed, there was no serious attempt at regulation until 1876, and for many years thereafter the dominating character of the Southern Pacific in the realm of practical politics rendered legislation and attempts at enforcement largely ineffective. The belief was current that the regulators—that is, the legislators—were themselves regulated, if not controlled outright, by the railroad.

The O'Connor Act of April 3, 1876, is described as "an act to provide for the appointment of commissioners of transportation to fix maximum charges for freights and fares, and to prevent extortion and discrimination on railroads in this state." The personnel of the first commission included John T. Doyle, Isaac W. Smith, and George B. Stoneman, afterwards governor. This board was unable to compel the submission of reports; and when differences of opinion arose as to what the law really was, railway officials arrogantly decided to disregard it and defy the authority of the commissioners. As matter of fact, the commission itself came to an end within a period of two years.

The act of April 1, 1878, repealed the O'Connor Act by establishing the office of a single commissioner of transportation, "to fix the maximum charges for transporting

passengers and freights on certain railroads and to prevent extortion and unjust discrimination thereon." He was able to accomplish little more than the accumulation of certain statistical data.

The majority of delegates of the state constitutional convention of 1879, being openly hostile to the railroad "monopoly," reached the determination to force the system to submit to thorough-going regulation. After long discussion it was decided to create an elective commission, with a four-year term, clothed with ample powers "to establish and publish rates, to examine the books and records of transportation companies, and to prescribe a uniform system of accounts." It was furthermore decided to write a general prohibition of discrimination into the fundamental law of the state. This provision was made effective by the act of April 15, 1880; and the first commissioners elected were Joseph S. Cone (first district), C. J. Beerstecher (second district), and George B. Stoneman (third district).

No attempt will be made to trace the long and devious history of the California Railroad Commission. While the act of 1880 continued theoretically in existence for thirty years, it may be stated that so far as actual regulation of fares and rates was concerned it remained virtually ineffective. Everywhere there was complaint that the Southern Pacific "machine" so dominated and manipulated elections as to render the commission wholly innocuous. Democratic conventions adopted resolutions denouncing "boss" politics and gravely reiterating time after time that "the emancipation of California from Southern Pacific domination overshadows every other public question"; independent Republicans protested loudly against monopoly control; parties were up and parties were down, but the "Southern Pacific Machine," it seemed, was to remain forever in the saddle.

The demand of the public for regulation was actively met by the Stanford-Huntington group in several ways, especially by appeals to the general public through a dissemination of the gospel of industry, through a systematic and wide-spread "contacting" of influential men, by means of one of the most resourceful and persistent lobbies known to Washington and Sacramento, and by securing the nomination and election of desirable officials while compassing the defeat of those who were not "right." Actual regulation was held highly inexpedient in California while the railway system was still so incomplete.

In the meantime the important subject of railroad transportation was beginning to receive throughout the nation something like the public attention its magnitude demanded. The Interstate Commerce Act of 1887 was the first of a series of regulatory measures passed by the Federal Congress, though it cannot be said that all the intricate problems connected with the expansion of this gigantic utility have even yet been solved. It would of course be unreasonable to imagine that the highly complex and dynamic situation in California could have been met with that success which rests upon long experience and stable conditions. The railway magnates were clearly motivated by considerations of private gain—their methods were devised accordingly; but the course of the public was by no means so well charted—the mobilization of wisdom and of sentiment for a concrete objective was attended with infinite difficulty.

The organization of the Lincoln-Roosevelt League in 1907 marks the beginning of the end of the dominant influence of the railroad in the politics of California. The election of Hiram W. Johnson as governor in 1910 was the signal for the change—which at last came more swiftly than anybody had anticipated. The League had been instrumental in accomplishing with startling suddenness

what neither political party had been able to do for a generation. The "Southern Pacific machine" was not slow to recognize the wisdom of a strategic retreat under the new régime; the great corporation a serted that it welcomed an opportunity to withdraw from the political arena in California.

Chapter VIII

CHAPTER VIII

Harnessing Electricity

WHETHER VIEWED from the standpoint of historical romance, daring business adventure, or political and military significance to the nation, the establishment of telegraphic communication in California and between California and the eastern centers is worthy of a place alongside the Pony Express and the steam railroad itself. The energy, enterprise and actual operations that made possible the transcontinental telegraph were as dramatic in their details as they were important in their national consequences.

An extremely interesting suggestion of telegraphic connection between California and the East is found in an important book, *A Tour of Duty*, written by Joseph W. Revere, a descendant of the illustrious Paul Revere, and published in 1849, only five years after the first telegraph line was constructed in the country:

"There is another suggestion I would make, at the risk of being deemed visionary, and that is, the extension of the *Magnetic Telegraph* with all convenient speed, from St. Louis to San Francisco. A million of dollars would probably pay the expense of a first-class telegraph, with heavy wires of galvanized iron . . . . As a means of com-

munication, not only with thousands of our countrymen in Oregon and California, but also with our vast and growing commerce in the Pacific and in Asia, the value of this telegraph can hardly be appreciated. It would be not only used by ourselves, but also by the agents of all nations having commercial relations with the Pacific and Asia. But it would principally benefit our own commerce, enabling us to take immediate advantage of fluctuations in the Eastern markets, and eventually to command those markets, and almost monopolize the trade of China and the East Indies . . . . "

The opening of the first local electric telegraph in California was celebrated on September 22, 1853, in San Francisco. The wires were stretched from the lighthouse at Point Lobos across the sand dunes to the western city limits, at Larkin Street, thence along Broadway to its junction with Stockton Street, along Stockton to Sacramento Street, and on to the Merchants' Exchange, at a point between Montgomery and Sansome—a distance of eight miles in all. The system was erected by Messieurs Sweeny and Baugh for the purpose of giving shipping information. A station was erected at Point Lobos, overlooking the ocean, in full view of the previously erected station on Telegraph Hill. The line was used by the proprietors of the Merchants' Exchange in facilitating their business of reporting the arrival of ships.

In October of that year San Francisco and San José were connected by telegraph. The poles and wires excited no end of curiosity among the native Californians. Frederic Hall, the historian of San José, has given us this amusing account:

"It was a novelty, and quite an event in the history of the place. The natives could not comprehend it. One old Mexican waited nearly all one day to see the mail pass on the wires. An old Mexican lady looked at the

poles with wonder. They had cross-bars on them, to which the wires were attached. Too many crosses erected in a Protestant country struck the old lady with perfect amazement. 'Well!' said she, 'I believe these Americans are becoming good Catholics.'"

The first telegraphic message to the interior of the state was sent over the wires of the California State Telegraph Company on October 24. The message was sent to Marysville, a distance of 210 miles, via San José, Stockton, and Sacramento.

On October 8, 1860, the line was completed between San Francisco and Los Angeles, twenty tons of wire having arrived by clipper ship sailing round the Horn. At eight o'clock in the evening Mayor Henry Miller of the southern city sent the mayor of San Francisco the following message:

"Allow me, on behalf of the citizens of Los Angeles, to send you greetings of fellowship and good feeling on the completion of the line which now binds the two cities together."

In February of the following year dispatches that were received on the Butterfield Overland Mail were telegraphed from Los Angeles to San Francisco, arriving there in advance of the Pony Express. "Beating the Pony Express very naturally occasioned great rejoicing. But serious difficulty was experienced in endeavoring to keep the telegraph line in repair—for months there was practically no communication between the cities.

"The local companies were not long in being consolidated into the California State Telegraph Company, which, under a liberal charter and a $100,000 subsidy from the legislature, gradually extended its network of wires to the cities and towns of the Pacific Coast. With the development and extension of the telegraph on either

side of the great central wilderness," the practical connection of California and the East was actively urged toward final consummation.

In the meantime—it is appropriate to remark—the early telegraph companies, being no exception to the rule when revolutionary innovations are struggling toward stable foundations and popular favor, "had their winters of discontent, long, bitter cold, discouraging"—the whole thing was dream-like and uncertain. "There was much sad whistling," as a writer expressed it, "around what seemed the graveyard of buried hopes."

Hiram Sibley urged the construction of the line to the Pacific. Again and again he pressed it upon his board and fretted at their timidity; but he could not get them to budge. "Gentlemen," he finally declared, "if you won't join hands with me in this thing, I'll go it alone!" In August, 1857, he laid his Pacific project before the North American Telegraph Association. A committee was appointed, and there the matter ended. The following year he applied to Congress—for the government had already come to feel the urgency of reaching its distant posts. On June 16, 1860, an act was passed "to facilitate communication between the Atlantic and Pacific states by electric telegraph," carrying an annual subsidy of $40,000. On November 1, 1861, a contract was executed by Salmon P. Chase, Secretary of the Treasury, and Hiram Sibley for the construction of the entire line.

An agreement was reached that the Western Union—a name that had been insisted on by Ezra Cornell—and the California State Company "should, respectively, extend their lines to Salt Lake City and there connect." To carry out the Sibley contract on the part of the Western Union, the Pacific Telegraph Company was incorporated in January, 1861, by the Territory of Nebraska,

with a capital of $1,000,000. To carry out the obligation of the California company, on the other hand, the Overland Telegraph Company was organized in San Francisco, with a capital of a million and a quarter, and construction was placed under the direction of James Gamble. To Jeptha H. Wade must be given due credit in bringing about consolidation of the four lines then in California.

The selection of the route was of vital importance. After two rejections, Edward Creighton surveyed the route from Omaha to Salt Lake via Fort Kearney, Laramie, South Pass, forts Crittenden and Churchill, across the Sierra Nevada to Sacramento and San Francisco. Riding on mule-back, the engineer traversed the entire route personally; he made his report in April, 1861, expressing his willingness to undertake the construction to Salt Lake City. The offer was promptly accepted and the Omaha-Laramie route adopted.

Despite the objections urged—that no poles were to be had along the route, that the Indians would not permit the wires to remain in place, and that the volume of business to California would not pay—the work was actually begun July 4, 1861, with large gangs of men, and about 1,000 oxen used for transporting food, wire, poles, and camp equipage. The California forces were divided into two groups, one starting from Carson, the other from Salt Lake City. The Omaha section commenced on the Fourth of July and finished October 24 of the same year, while Mr. Gamble's section finished two days later. The public mind was struck with amazement when it became known that the line had been completed and telegraphic communication was in actual operation from ocean to ocean in the incredibly brief space of four months and eleven days after beginning work. One of the first messages to be flashed across the continent over the

wire, which possesses much significance in itself, is as follows:

San Francisco, California,
October 24, 1861, 7:40 p.m.

To his Excellency, the President,
Washington, D. C.

I announce to you that the telegraph to California has this day been completed. May it be a bond of perpetuity between the States of the Atlantic and those of the Pacific.

(Signed) Horace W. Carpenter,
President, Overland Telegraph Company.

On behalf of the people of California, Leland Stanford sent this heartening message to President Lincoln: "Today, California is but a second's distance from the National Capital. Her patriotism with electric currents throbs responsive to that of her sister States, and holds civil liberty and the Union above all price." In his message to the President, Governor John G. Downey said: "May the golden links of the Constitution ever unite us as one happy and free people."

It was a signal triumph for Hiram Sibley; congratulations poured in upon him, and his vigor and skill were deserving of the commendation thus tardily given. The successful completion of the transcontinental telegraphic system, thus giving a striking vindication of Morse's invention as "the scientific miracle of the age," spelled the final doom of the romantic Pony Express.

The Telephone and the Wireless

The first telegraph line in the United States opened for business in 1844; thirty-two years later the telephone was introduced, the patent being taken out by Professor Alexander Graham Bell in March, 1876. The use of the

telephone in California dates from 1882, though for a time it did not achieve any great degree of popularity.

A little later this innovation entered upon a period of remarkable expansion, and there was great rejoicing when the first complete transcontinental telephone line was demonstrated in connection with the Panama Pacific International Exposition at San Francisco, in 1915. Since that date the long distance service has been continually increasing, and on December 1, 1927, telephone rates on calls to points 390 miles or more away were substantially reduced by the American Telephone and Telegraph Company.

California at present boasts the most rapid growth of all the states in the use of the telephone, the highest percentage of instruments among all American cities being in San Francisco, with Los Angeles not far behind.

On the twelfth of December, 1901, Guglielmo Marconi was successful in picking up the "first trans-Atlantic signal, the letter, 'S,' radiated from the aerial of the big spark station at Poldhu, Cornwall, on the southwest tip of England." About twenty years later he came to the United States and demonstrated his "baby wireless set" with such success as to appear like a master magician to his critical audience. Today, the beam system, by which it is possible to concentrate the radiated energy in a single direction instead of broadcasting it to all points of the compass, is said to mark the dawn of a new era in communication with possible effects of a far-reaching character.

The first public test of transoceanic radio telephony, two-way communication was demonstrated and maintained between New York and London in 1926. On the 7th of January following, the mind of the public was captivated by another radio achievement when regular service was opened between the old and new worlds by

the simple but significant words, "Hello, London. New York is calling." And now—*mirabile dictu!*—when the business man in San Francisco desires to talk with his client in Berlin, or other European city, he has but to take down his telephone receiver, ask for "Long Distance," and give his call "in the usual way." The "talk-bridge" is now a reality; the world is audibly shrinking to a neighborhood! The telephone and the radio will yet compel all men to be neighbors!

Street Cars

In July, 1860, a steam car along newly opened Market Street, San Francisco, quickly overshadowed the omnibuses to the mission district. The first horse railway was established the following year. Street car service was extended in the metropolis very rapidly; and the Clay Street cable road, the first of its kind, dates from 1873.

The author of that fascinating but little known book, *Lights and Shades of San Francisco*, published in 1876, gives us interesting glimpses of the street railroads of that city in his day.

"Nature is in league," he writes, "with the hackmen and railroad companies. In summer, she drives the pedestrian into the horse-car or hack, to escape the tempestuous gale that heralds its coming by billows and clouds of sand and dust that come rolling down the highways. In winter, they fly to the street car for shelter, to escape the drenching rain that comes down in torrents flooding sidewalk and street."

It is pointed out that there were at that time eight street railroad companies, employing a total of eight hundred men and requiring fifteen hundred horses. Two hundred cars were in use daily, on fifty miles of double track. There was bitter complaint because of the inhuman treatment of the company horses; their uncom-

plaining docility was ruthlessly exploited by the task-masters. The contemporary account continues:

"Cars, the weight of which alone are sufficient loads for the thin, trembling animals that draw them, are jammed and crammed with passengers. With oft-repeated reminders from the driver (who really has a tender feeling for his team, and would fain befriend them), the willing brutes exert their utmost strength, and stumbling and staggering over the cruel cobble-stone pave, or straining and surging for a firm foothold on the slippery road, they plod along as best they may, hour after hour, until from sheer inability to proceed they are relieved from duty."

Within a single generation the "bobtail," and even the two-horse car, became a distinct anachronism. Then came the famous cable-car system in San Francisco, undoubtedly hastened because of the hilly contour of desirable residence localities. As a result of the genius of A. S. Hallidie, president of the Mechanics' Institute, there was installed for the Clay Street Hill Road an endless wire rope, one inch in diameter, which was made to pass around the drive-wheel of "a powerful engine situated at the top of the hill, and around a strong pulley at the bottom of the grade," serving as a "tow rope by which the cars are drawn up or down the grade." The wire rope (or cable) system, which proved so efficient where the hill was too steep for either horse or steam cars, came rapidly into use, enabling the street-car companies to dispense with the faithful horses. And thus the extensive cable-car system became famous far and wide as a prominent institution in the life of San Francisco.

Then it was not long until the introduction of the electric cars for city transportation—not only in San Francisco but in every city and town the harnessing of electricity afforded such superiority over earlier forms of

power that to remark its introduction and wide application would be but a commonplace.

The first franchise ordinance for street cars in Los Angeles bore the date of July 3, 1873, and granted to D. V. Waldron a five-year permit "to lay down and maintain two iron railroad tracks to run cars thereon, propelled by horses or mules, and to carry passengers thereon." Within six months R. M. Widney was granted a twenty-year franchise to operate a street railway "commencing at Spring and Temple streets, and turning south on Spring. . . ." Widney's rights were acquired by the Spring and Sixth Street Railroad Company, and cars were put in operation early in 1874. The following year William H. Workman and A. H. Judson were granted a franchise. The rolling stock of the new firm comprised one car and a single pair of mules! The interval between runs was an hour and a half. The first cable-car line was established in 1884 and continued till 1902. In all, forty-three street-car franchises were issued by the Los Angeles City Council between 1873 and 1887.

Electric car transportation in Los Angeles dates from 1887, the city's first trolley train consisting of the separate motor cab and passenger car. The trolley ran along on top of the transmission wire instead of underneath, as now commonly operated. Arthur W. Kinney, at the time a mere lad, has described his pioneer trip by trolley on this Maple Avenue and Pico Street line as a succession of starts and stops. He was one of those trustful passengers who found themselves compelled to walk back from Pico Heights to town!

In the days of primitive street-car transportation, the passengers were expected as a matter of course to lend a hand "in a pinch," by holding the driver's reins while he collected a fare, or by helping to get the car back on the flimsy rails when it jumped the track on a stormy day.

One of the most picturesque scenes of local transportation was presented on the "mule power trolley" operating on Euclid Avenue between Upland and Ontario when the mule, having laboriously dragged the car to the top of the long grade, sedately mounted the platform and coasted placidly all the way down to Ontario.

The Pacific Electric Railroad

The interesting story of the Pacific Electric Railroad is intimately interwoven with the life of Henry E. Huntington (a nephew of Collis P. Huntington), who was its chief builder. Having already secured control of the Los Angeles Railway, Mr. Huntington organized the Pacific Electric in 1900. Shortly afterward, the Los Angeles Interurban was incorporated; then followed a series of consolidations of small roads in rapid succession.

The phenomenal development of the consolidated Pacific Electric became one of the conspicuous factors in the unprecedented growth and upbuilding of Los Angeles and near-by towns. The alert and powerful Southern Pacific did not fail to see in this great interurban road a valuable feeder for its own system. Accordingly, it took over the Pacific Electric in 1910, Huntington retaining, however, a controlling interest in the city lines known as the Los Angeles Railway Corporation.

Among the numerous later developments were the building to San Bernardino Valley in 1914 and the completion of a direct line to Riverside via Rialto the following year. To gain some conception of the scope of its operations, it may be noted that the distance from San Fernando on the northwest to Corona on the southeast is 105 miles; from Redlands to Owensmouth is 97 miles; from Balboa on the beach to Highlands at the foot of San Antonio Peak is 103.6 miles. The system has a total of approximately 1,200 miles; it serves 45 incorpor-

ated cities by means of more than 3,700 trains operating in and out of Los Angeles daily.

The financial magnitude of the corporation, under the presidency of Paul Shoup, now president of the Southern Pacific, is indicated by the fact that the maximum valuation of $88,103,475 was placed on its physical assets by the engineer of the California railroad commission.

While the Pacific Electric is by a wide margin the greatest interurban system in California, numerous other large systems have been developed in various parts of the state, notably those operating out of Oakland, Sacramento, Stockton, and San José. Their efficient service—now so lightly taken for granted—constitutes an important and worthy phase of the development of transportation in the Golden State.

Power

In taming electricity and harnessing the thunderbolt for the use of man, another significant pioneering event in California must not escape notice. In 1882, George Chaffey, a native of Ontario, Canada, who had agreed to undertake the difficult task of financing the great reclamation project for Imperial Valley in the southeastern part of the state, designed a small power plant, in connection with the newly-formed Etiwanda Irrigation System, to run a dynamo. He there operated what has been claimed to be the first electric street lighting system in the world.

It is a far cry from the tallow dip and the kerosene lamp of our parents, or even from the first street lamps of San Francisco, in 1850, to our own brilliantly lighted homes and the rows upon rows of graceful and ornate lights that now illuminate the streets and wonderful boulevards of our fortunate cities! And here again, what

we everywhere accept as but another commonplace is in reality an added miracle of modern science.

Four Pacific states—California, Oregon, Washington, and Idaho—have been fortunately endowed by nature with more than one half of the total available water power of the entire United States, and power is rightly regarded as one of the nation's greatest assets.

Hydro-electric energy has been developed and is being developed hand in hand with the enlarging program of conservation. It has come to be recognized as the motive power upon which California industries chiefly and increasingly depend; indeed, neither transportation, manufacturing, nor agriculture can continue to go forward without an adequate supply of electrical current.

The immense water power, in the mountains that stand as perpetual guardians above the great interior valleys, and potential in the eternal snows along the jagged summit, is being made available, by means of heavy transmission lines, to the people, whether in the mine, in the midst of the city, in the factory, or on the farm. During recent years there has been a development in the science and facilities of power transmission, in heavy loads and over great distances, that is truly phenomenal, and to the ordinary layman utterly bewildering.

As a single outstanding example of California's wonderful resource in potential electrical energy may be cited the San Joaquin River, which with its tributaries has been found to have available for utilization a total of 1,400,000 horse power. The Big Creek water power development by the Southern California Edison Company, by means of the construction of a chain of power houses in series, in the high Sierra, between Huntington Lake and Power Plant Number 4, is one of the world's greatest undertakings of its kind.

The Pacific Gas and Electric Company, with head-

quarters in San Francisco, and the Southern California Edison Company, with headquarters in Los Angeles, hold very high rank among the world's largest producers and distributors of electrical current. The latter company serves upward of three hundred cities and towns of Southern California, in an area of more than 55,000 square miles, with a population in excess of 2,000,000. The former company, likewise one of the largest public utilities of its type in the United States, has its vast field embracing thirty-eight counties in northern and central California, with a like population. In addition to these two great companies, the Great Western Power Company operates in the northeastern portion of the state, and the Southern Sierras Company in the southeastern portion. Other large generating and distributing systems include the Los Angeles Gas & Electric Corporation, the San Diego Consolidated Gas & Electric Company, and the City of Los Angeles Bureau of Power & Light. Since 1922 the average increase in expenditures of the electric companies of the state has been in excess of $100,000,000 per year. By the year 1926 there was a total installed electric power station capacity of 2,670,000 horse power. It has been well recognized that the key to the industrial future is the wise and energetic development of hydro-electric power. The contemplated harnessing of the energies of the Colorado River and leading them to the very portals of the city of Los Angeles visions one of the mightiest engineering enterprises of man.

Of incalculable benefit to production is California's system of irrigation, a large part of which has been developed through the use of electric pumps. Power wires distribute the "white gold" to thousands of grateful farms, thus aiding in the transformation of the Great Valley into a garden spot of the world. The present volume of production, to say nothing of expected in-

crease, would be unthinkable in the absence of extensive irrigation.

In power development, as in other important respects, California has scarcely passed the infant stage. The future is bright with alluring promise. But it has been estimated that the increasing requirements for power will exhaust the hydro-electric resources in less than two decades. Therefore, it becomes imperative that a policy of true conservation be adopted by the people and that salutary measures be taken before it is too late. He was a prescient economist and statesman who formulated the maxim, "The patrimony of the state must not be impaired."

Radio and Television

A new marvel among the group of modern wonders, and a magic-like wonder among marvels, is the radio, which throughout California, as elsewhere, has sprung into instant and signal popularity. What had so long been wholly baffling to wise men and scientists has become the toy and pastime of children!

By means of this wonder-working agency for broadcasting and receiving sounds through space, our facilities for communication have been indefinitely expanded. Millions are entertained in their own homes in a lavish manner hitherto deemed impossible—indeed, undreamed-of by prophet or sage. Forms of art have been rendered popular as never before; and an amazing diffusion of musical knowledge—or at least exposure to the privileges of music—has brought one of the highest of the fine arts within reach of the people. The unskilled laborer, humble in station but possessing music in his soul, may now listen entranced to an aria from "Il Travatore." Opera is at length within the reach and means of millions. Whereas an audience of 3,000 was previously "hailed as

an indication of the tremendous popularity of the singer," Mary Garden or Madame Schumann-Heink "steps before the microphone and sings to forty-eight states at one time." The President of the United States talks to the people by scores of millions in their own homes!

Not only in music, but in education and business, in politics and religion, the riches of radio are being exploited, though it is averred that the wise stabilization and the maximum utility of this new and immeasurable resource are still far in the future.

In the meantime "television" is a fresh word added to our modern dictionaries. Television, or "seeing by radio," is fast becoming a reality, whose intriguing problems are being seriously grappled with by experimenters both professional and amateur. Like the automobile and the airplane, it has been preceded by a number of discoveries and inventions and may therefore itself be referred to as the outcome of an evolutionary process.

Not until early in 1928 did television come prominently before the American public, and then it was chiefly through the activity and enterprise of the General Electric Company of New York. As a single illustration of the rapid strides that have brought this newest branch of science and art to the front, may be mentioned the fact that a magazine called *Popular Radio*, then in its thirteenth volume, felt compelled, with the April, 1928, number, to add to its title the words "*And Television*," thereby claiming the distinction of being the first to give official recognition to the seeing "eye" of the photo-electric cell.

In addition to television, of which several systems have already been devised, another application of the photo-electric cell—scarcely less wonderful—is found in connection with the talking motion pictures. Here again the human imagination falters in the presence of actual achievement. The advent of the talking picture

has thrown the great film industry into "the throes of a mighty and sudden change." In this field Warner Brothers of Hollywood are prominent pioneers. Within an incredibly short time many hundreds of theaters have become equipped for the exhibition of talking pictures.

As these lines are written radio can hardly claim to have a history—much less television and the "talkies." Nevertheless, they have already begun to influence the course of history. He is a bold prophet and not a historian who dares to venture a delineation of the consequences of these precocious children of modern science after their swaddling clothes shall have been discarded. The future hath not entered into the thought nor yet the fancy of man!

Chapter IX

CHAPTER IX

The Motorizing of an Empire State

THE FIRST effectual agitation for a system of good roads that was of state-wide character culminated in the act "to create a Bureau of Highways and prescribe its duties and powers and to make an appropriation for its expenses," which received the approval of Governor James H. Budd, March 27, 1895. Among the duties of this bureau of three men were such as the compiling of statistical data regarding the mileage, condition of improvement, construction and maintenance of the roads of each county. Moreover it was to inquire into "the topographical and geological features of each county, and more particularly with regard to the accessibility of water for road-sprinkling purposes, and stone quarries, deposits of gravel, bituminous rock, sand, adobe, or any other materials suitable for road-making purposes." Plans for draining or watering roads and for culverts and bridges were to be prepared; all matters pertaining to highway improvement were to be noted.

Since those were the days before the automobile, members of the bureau drove the official team of horses and sturdily built "buckboard" wagon into every county in California during 1895 and 1896. Their report to the governor recommended an extensive system of state high-

ways, which were to include twenty-eight routes. It is worthy of note that the map filed by the bureau corresponds almost to the point of identity with the highway system as we know it today, despite the revolutionary changes in transportation that have occurred during the intervening years.

Few are now aware of the conspicuous part played by the bicycle in advancing the cause of good roads; it is therefore somewhat surprising to read in a bulletin prepared by R. C. Irvine of the bureau that:

"The influence of the bicycle upon this agitation for improved highways cannot be overestimated. Millions of dollars have been invested in the manufacture of these easy and graceful machines of locomotion and this agitation for better roads is due more directly to the efforts of the wheelman than to any other one cause.

"Any machine which enables a man to travel with pleasure, without discomfort and practically without expense, forty miles a day, is evidently one which has come to stay and the number of wheelmen will surely reach extraordinary proportions in the years to come."

There was something fascinating, as the San Francisco *Call* said, "in the declaration made by a member of the State Bureau of Highways that it is the intention of the bureau to see that a finely macadamized highway is built from one end of the state to the other." It was clearly perceived that good roads would prove a boon not only to the wheelmen but likewise to the farmer, the merchant, and the shipper—indeed, to all classes of inhabitants.

In the spring of 1897, the Bureau of Highways was abolished and a Department of Highways created by a new act, which provided that three highway commissioners should hold office for two years, then go out of office automatically and be succeeded by a single civil engineer. The fact that comparatively slight progress in

permanent road building was made is explained partly by the lack of adequate financial support and partly by the exigencies of politics. It must be confessed that during the years between 1895 and 1909 the agency showing the greatest promise of actually providing a good system of state highways was the first—the Bureau of Highways; with its dismissal went the best prospect of the entire period.

But in the meanwhile the automobile had enacted the first scenes in the drama of transportation that has had few counterparts in the whole realm of economic endeavor. The development of the motor vehicle industry has been perhaps the most phenomenal and astounding of all industries in the history of the human race. American life and American industry are being actually revolutionized by the automobile. "The gas-driven machine," declares Professor Clyde King, "has brought an era as distinctive and creative as that brought by steam."

Like the steam engine and the steam railway, its earliest beginnings considerably antedate its practical use. As early as 1760, so it is related, a Frenchman named Nicholas J. Cugnot began experimenting; he built in all three cars, none of which, however, proved satisfactory. In 1885, the first vehicle driven by an internal combustion engine was invented in Germany. France claims the honor of creating the first real automobile, in 1891; and by 1900 they were firmly established in America. The automobile of early vintage is thus well described in an advertisement of a motor fuel:

"The motor car of 1902 was a noisy reminiscent of the boiler work. It sputtered, balked, and frightened everyone but the daredevil at the wheel. Many a person remembers the famous gag of the day, 'Git a Horse,' as the jerky, buggy-wheeled, side cranking, chain drive, 'horseless perambulator' made its way through the town."

A million cars were manufactured in the United States between 1895 and 1912—a mere intimation of what was to follow. Among all the manufacturing industries of the country in 1924 the making of motor vehicles was first in the value of product. America had with remarkable swiftness achieved unquestioned preeminence in this new industry, partly because of the abundance of raw materials, the highly standardized manufacturing methods, and a very real demand which was admirably supplied by such a means of transportation; but chiefly, no doubt, by virtue of the skill and ingenuity of engineers and workmen and their dynamic qualities that prompted them to adopt the very newest methods.

California, land of beauty, of romance, of long distances and open spaces, became alert to another golden opportunity. To many of her people the automobile was seen to be a necessity; to all its significance as a means of pleasure became increasingly obvious. But it was early perceived that "an automobile without roads was as useless as a pen without ink."

The California Highways

By act of the state legislature approved by Governor James N. Gillett on March 22, 1909, and ratified by the people at the November election of the following year, the California Highway Commission was created, to have full authority over the construction of a great system of highways under an $18,000,000 state bond issue. Thus was announced to the world the birth of the amazing era of modern highways in California.

Ample rights of way were to be acquired and state highways constructed running in general north and south, traversing the Sacramento and San Joaquin valleys and along the Pacific Coast, and also connecting the respective county seats lying east and west of such highways. It

may be added: "This system of highways is to be constructed and maintained at the expense of the state, except that each county must pay into the Treasury 4 per cent per annum upon the sum of money expended in such county in the construction of said state highways, less such proportion of the amount expended as the bonds matured shall bear to the total number of bonds outstanding." The enthusiastic support of Governor Gillett, who had long been a good roads advocate, had much to do with the successful passage of the measure by the people.

It was evident from the start that the sum of $18,000,000 would be inadequate to meet the needs in all respects; therefore the commission created under the act formulated a well-considered policy along conservative, cooperative lines. It is gratifying to note that in carrying out this policy the commissioners undertook what was probably the biggest road-building job of modern times, in which they very generally received the hearty support of the counties and cities, thereby effecting a saving of several millions out of the state bond issue.

Under conditions obtaining at the time three types of pavement were adjudged possible. These were: (1) oil macadam (penetration method); (2) concrete roadway, with relatively thin bituminous wearing surface; and (3) concrete roadway, with a thick bituminous top of asphaltic concrete. It was at first expected that most of the roads would be of the first type, especially in view of the monopolistic prices of Portland cement; but it was finally made possible to construct the major portion of the highways of concrete with bituminous top, thick or thin according to the demands of the traffic. The commission of necessity proceeded on the assumption that additional funds would be forthcoming to carry forward the vast enterprise undertaken.

The subject of materials for road construction occasioned much discussion; but even from the early stages of the good roads movement in California the trend was for the widest possible use of concrete. In an early bulletin of the United States Department of Agriculture, the following advantages of concrete were indicated: (1) durability under ordinary traffic conditions; (2) a smooth, even surface offering little resistance; (3) absence of dust and ease with which it may be cleaned; (4) comparatively small cost of maintenance until renewals are necessary; (5) availability as a base for another type of surface if desirable; (6) attractive appearance. The only disadvantages mentioned are: (1) its noise under horse traffic; (2) the wearing of the necessary joints in the pavement; and the tendency to crack with the consequent rapid deterioration; (3) the difficulty of repair when this becomes necessary. After exhaustive tests and examinations the decision was reached that concrete was the only road material that complied with the statutory requirements as to permanency. Even then, it was pointed out, the term, "permanent," is to be considered in a relative sense only, since there is no known pavement or roadway that does not require more or less expenditure for maintenance.

The State Highway was planned only after actual and extensive observation of the needs of the state. Referring to the long automobile trip made for this purpose, Commissioner Charles D. Blaney issued this graphic statement: "We covered six thousand eight hundred fifty miles on our tours. We were kicked off mountain roads by mules, we were stuck in river fords, we slid around dangerous mountain grades, we broke our windshield and punched holes in the bottom of our gasoline tank on the rocks on the desert, and after we had covered the trunk lines and laterals of California from Oregon to

Mexico we went back to Sacramento and drew the State Highway routes on a big map of the state."

Within a year's time from the date which saw the work begun, a thousand miles and more of highway had been surveyed and the commission was face to face with an actual construction program that has perhaps never been matched in the entire history of road building.

Following the first state bond issue, of 1910, for $18,000,000, came the second, of 1916, for $15,000,000, and three years later the third, for $40,000,000. Added to these great amounts have been scores of millions more from county, city, and road district funds. The people of California have become educated to the importance and economic soundness of good roads, and have therefore with right good will entered upon a program to complete the state system of 6,700 miles.

The highway commissioners appointed by Governor Hiram Johnson laid out two main trunk routes through the entire length of the state: The first, or coast highway, proceeds from Del Norte County on the north, through Eureka, Ukiah, Santa Rosa, San Rafael, and meeting the San Francisco ferry at Sausalito; from San Francisco through San Mateo, Redwood City, San José, Salinas, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Santa Ana, to San Diego. From the Oregon line the second route passes through Yreka, Redding, Red Bluff, Yuba City, and Marysville to Sacramento; thence through the San Joaquin Valley via Stockton, Modesto, Merced, Madera, Fresno, Bakersfield and to Los Angeles. Many important laterals were projected, and great was the demand, expressed in innumerable petitions, to have the new highway touch every city and town. Huntington Drive was the first automobile road to be completed in Southern California; it has been accordingly dubbed "the grandfather of local boulevards."

Governor C. C. Young, himself an ardent advocate of good roads, has predicted that within a decade California will have brought to completion a grand system of highways which will surpass that of any other state in the Union. Forces are vigorously at work toward the attainment of that end, not the least of which is the program of Federal highway aid. Accordingly, in cooperation with the large automobile clubs of the state, the Federal government has undertaken "the marking of all Federal aid roads in the state with metal signs giving the number of the project in the federal program." It is now proposed that the Federal government construct three great through highways along the Pacific Coast from Canada to the Mexican border, such roads being planned "to accommodate heavy commercial traffic in times of peace, and heavy ordnance in time of war."

Transcontinental travel by private automobile has developed to an astonishing degree, bringing ever-increasing numbers of tourists into California. The "log of an auto prairie schooner," as a picturesque part of the first through tourist automobile train from New York to Los Angeles, in 1911, already reads like a tale out of the distant past. Everything went well with the party through Poughkeepsie, Buffalo, and on to Chicago. "We were motorists as far west as Chicago," writes the chronicler. "Then we became pioneers." The trip was successfully completed, marking an epoch in transportation across the continent and foreshadowing the construction of great national highways from ocean to ocean. The "Broadway of America," extending from Broadway, New York, to Broadway, San Diego, and thus connecting the Atlantic with the Pacific over an all-year paved national highway, is beyond the most fanciful dreams of those bold pioneers who went forth to prepare the way.

From Perilous Trail to Perfect Pavement

For all the silent ages preceding the dawn of the twentieth century, Death Valley and other wide-stretching desert areas of Southern California and the great Southwest were closed to the traveler. Here and there among hardy American pioneers a party, unfortunately losing their way, wandered far out into the forbidding sands, or seeking to save precious time, tried the allurements of a cut-off, too often to leave their bones to bleach under the fierce rays of the ardent sun. Even experienced and fearless ranchmen of a later day made wide detours about lifeless stretches of burning sand, while for tourists to venture in would be like holding tryst with Death himself.

With the perfection of the automobile all this has been marvelously changed. Safe and comfortable highways now penetrate even the places of grim tragedy, and oases that formerly seemed infinitely far apart are brought close together by the swift and powerful motor car. The very scenes that brought inexpressible pangs of suffering to Manly and Brier and the Jayhawkers and frightful tragedy to many of their heroic comrades are visited in luxury today. Death Valley tours in season are now but a diversion to many seeking to experience a new thrill, and in the midst of the valley is situated a winter resort with urban hotel accommodations for its lighthearted guests.

What seems stranger still, some of these desert lands are found to contain great resources, whose development is made possible by the highway and the automobile. Fabulous mineral treasures remain to be exploited, and subterranean waters and irrigation will support rich vegetation. The very desert waste is being transformed from a heavy liability to a prized asset; the waste places are being redeemed.

The Innumerable Motorcade

In a single short generation the registration of automobiles in the United States has leaped from none at all to more than twenty millions! No other country in all the world has even remotely approached this astounding record. Of the grand total an overwhelming majority are passenger cars, although the registration of trucks and busses has shown very rapid increase, particularly since 1914.

And California is the automobile state par excellence among all the states of the Union. Registration within this highly favored state has mounted with astonishing rapidity, passing the million mark in 1923 and leaving far behind the million-and-a-half mark three years later. In 1927, the thirteen counties of Southern California alone exceeded a million registrations. The only state that is able to show a greater total registration is New York, with its teeming millions of population—but while New York has a slightly higher numerical total, she falls far behind when considered on a ratio basis. Not content with owning a single automobile, a rapidly increasing number of California families have acquired a second, thus swelling the ranks of the "two-car families."

Los Angeles, with an automobile for every three persons, has achieved the unique distinction of being "the most thoroughly motorized city in the world." The interesting claim has been made—for whatever it may be worth—that the intersection of Wilshire Boulevard and Western Avenue has the heaviest automobile traffic of any corner in the world, a check for a twenty-four hour day recently showing 74,755 cars passing the point of intersection.

The motorization of America, with California leading, has been achieved with a rapidity that a single generation

ago would not have been deemed possible. From the first ungainly "horseless carriages" of scarcely more than thirty years ago, in which sputtered a noisy, diminutive single-cylinder engine, it is a far cry to the elegance and refinement, the beauty and power—the sheer luxury—of the modern automobile, whose name and number are legion on the smooth streets and the glorious highways of the Golden State. No great industry in all the past was ever characterized by a more remarkable spirit of progress than that which has permeated the automotive industry.

The significance of the automobile in California to all the inhabitants thereof really needs no discussion—it is too obvious. The privately owned car has come to be one of the ordinary requirements of every-day life. Everywhere business and pleasure are combined in the use of family cars. During vacation periods—every season is tourist season in California—automobiles are seen threading their way along the world's finest paved roads in ever-increasing numbers. Multitudes, from high estate and low, have found means of visiting the inspiring heights of the noble mountains and of being refreshed by the cooling breezes of the numerous sea-coast resorts.

Furthermore, hundreds of thousands are attracted to the Pacific from beyond the Sierra Nevada and beyond the Rocky Mountains. For weeks at a stretch the automobiles roll into the borders of the state where anticipations are exceeded only by realization. This is the innumerable motorcade! Each new summer morning finds the highways filled with expectant travelers bound for new fields of inviting beauty. A happy group of tourists leave San Francisco at dawn and before nightfall revel in the majesty and wonder of the Yosemite. Others quit the heated valleys in the cool of the morning and before evening are hilariously enjoying a dip in the surf

at one of the many Southern California resorts. Or perchance they have sought the mountain heights, to fellowship with the giant sequoias or the enchanting lakes. The almost unbroken caravan of cars on the perfectly paved highways is convincing evidence of the invincible love of the out-of-doors and of the claim that California has in actuality become the world's chief playground.

Tourism has developed into an industry of vast magnitude and of substantial character, not only pouring great treasure into the already rich coffers of the Golden State, but at the same time increasing her population by an infusion of permanent home-makers. The fascination of the country and the attractiveness of climatic conditions, heightened by the independent and progressive spirit of the people,—these are conditions that lie at the basis of the prodigious demand for motor transportation by the western sea.

The Motor Bus

In 1913 there sprang up in Los Angeles and other centers a "jitney" service, which with amazing rapidity employed thousands of individually owned second-hand automobiles. These machines—Fords strongly predominating—were of the touring model and were in all stages of decrepitude. They were made to carry unbelievable loads of human freight, and at the rush hours they almost choked the city streets for numbers. What was happening in Los Angeles was likewise happening in other cities and towns.

The jitneys were not long in extending their operation to interurban runs; and as the service extended, the owners began to use higher types of second-hand cars. Where the matter would end, nobody professed to know. Everybody seemed to be doing it—artisans driving to

and from their work thought they might as well earn a little side money by carrying fellow workers to their jobs; venturesome youth saw a prospect of more interesting work and quicker profits than at their prosaic tasks; nondescript workers and many unemployed wished to try their hand at the sporadic business; and inevitably promoters and speculators were quick to see the chance for combinations with consequent gains.

To such popularity did the jitney grow as soon to become a serious competitor of the street car. There seemed to be a certain exhilaration about crowding into an old automobile—for some time it had the novelty of a fad, though it is not to be denied that it likewise afforded real utility. Its shortcomings were readily overlooked while it was yet a novelty; but it proved to be none too dependable as a fair-weather bus—on stormy days the people were glad to resort to the neglected street car.

By 1916 there were many individual jitney lines on such interurban runs as San Francisco to San José, Sacramento to Stockton, Los Angeles to Santa Barbara and to San Diego, and San Diego to Imperial Valley points. With no close coordination, and keen competition, operators soon found their cars going out half loaded. Combination was the logical, the inevitable result. Thus the "Los Angeles—San Diego Stages" and similar groups were formed. Out of the early and often precarious combines there developed legal partnerships, fictitious name corporations, and later regular incorporated motor bus transportation companies.

Accordingly it may be observed that when motor busses first came into use, they were often operated in direct competition with street car and railway lines. The result of economical and successful motor bus operation would be the detriment or ruin of the railroads. Therefore, the street-car companies, forced to analyze the

situation from a purely business standpoint, perceived that there were certain advantages in motor bus operation and that under some conditions bus lines could be more economically operated than street railways. Gradually there emerged the idea, as the result of a natural but very rapid evolution, that the ideal transportation system would include the motor bus operated in coordination with the street cars and not in competition with them.

As a matter of fact, many street-car companies, not only in California but throughout the country, adopted the policy of using motor busses as regular auxiliaries to their respective systems, as the most effective manner of meeting the serious competition that was taking away the profits of the railroads. In numerous instances sharp competition came from the jitneys; in some cities the street-car companies adopt auxiliary motor bus service in order to forestall threatened competition.

A second reason for adopting the motor bus lay in the actual improvement of the service effected. The growing popularity of the automobile brought home to the street railway companies the hard fact that they must give a more attractive form of service in many districts—which meant increasing their facilities by introducing up-to-date motor vehicles.

Thirdly, bus operation proved to be an effective method of serving new territory on the basis of minimum investment and expense. The bus line satisfies the residents and is far more economical than railway extensions.

Finally, since urban transportation is essentially a natural monopoly and not a field for normal competition, the operation of motor busses by a street railway company proved to be of material assistance to it in fulfilling the obligations resting upon it as a monopoly of transportation. Moreover, an adequate urban service should in-

clude the universal transfer system; and perfect coordination is quite impossible where several companies or individuals operate street cars, rapid transit lines, motor busses and assorted jitneys in the same city. It is well recognized that under normal conditions the transportation system of a city should be fully coordinated and unified in control. It is clear, therefore, that the established railways adopted motor bus service in order to keep unified control in their own hands and more adequately to fulfill the obligation placed upon them by the public to operate this unified transportation system in the interest of the general weal.

The squadrons of jitneys disappeared from the city streets as quickly as they had come. The city of Los Angeles passed what is believed to be the first ordinance in the United States to take care of the outlaw jitneys. While they had many defenders and while they undoubtedly represented real economies, at least of a temporary character, they were sadly lacking in dependableness, coordination, and unified control. In a word, viewed as a phenomenon of transportation, the privately owned horde of motley jitney busses that thronged the streets of our cities for a time must be regarded as ephemeral —a passing phase of the fascinating story of transportation. By the statute of May 1, 1917, the state legislature definitely placed the control of motor bus transportation in the hands of the California Railroad Commission, similar action following in practically all of the states.

The motor bus, however, as an auxiliary to the street and interurban railways, as well as in the form of the motor transit stage, has won for itself a unique and apparently permanent place in our own day. As the plans developed and the number of passengers increased, additional seats were added to the old touring cars. The chassis was extended to accommodate nine, then twelve

to fourteen passengers. Next came the use of the light freight-weight chassis with specially constructed body to carry from fourteen to eighteen passengers, which is by no means the maximum at the present time; as the business expanded, operators—sensitive to the high cost of making alterations—began building their own special chassis, finally building the entire unit, specially adapted to the new purposes.

The motor transit stage is the result of an evolution comparable to that of the pleasure automobile itself. Each type of car is designed to meet the special requirements of the service in which it is used. There are the "Local" stages, with heavily upholstered seats, the "Limited," a sedan-type coach with luxurious appointments, the "Compound," a semi-sedan type stage, geared for mountain grades, and other sturdy cars, embodying conveniences and comforts which the wildest imaginations of our pioneer Fathers could never have pictured.

Three classes of motor bus service are readily distinguished—city, inter-city, and long distance. While each of these has its place and all have developed with astonishing rapidity, the long distance service is perhaps most novel and interesting. Neither those few Californians who stay at home nor the many who drive their private cars can form an adequate conception of the magnitude and extent of this vast new industry that has sprung up almost overnight. The "modern seven-league giants of transportation" of the Pickwick Company have an easy daily schedule between the flourishing cities that mark the course of the old Camino Real. The "Franciscan" and the "Comet," running between San Francisco and Los Angeles, and the "Jesuit" and the "Angelus," between Los Angeles and San Diego, are provided with every needed comfort and refinement, including cushioned reclining chairs, adjustable heaters, hot and cold lunch,

radio and upper deck for observation. With the introduction in 1928 of the "Nite Coach" of the Pickwick system, providing comfortable accommodations for sleeping as well as the luxuries of day travel, it has been claimed that "a new planet has appeared in the transportation sky." As a single indication of phenomenal expansion, it is noted that the total assets of the California Transit Company increased from approximately $900,000 in 1922, to $3,500,000 in 1926.

The first transcontinental stage route has been in operation for some time, through Arizona, New Mexico, Texas, Oklahoma, and Missouri, to St. Louis and Chicago; and next the Pickwick lines complete the second transcontinental route, operating from the Pacific Coast through Salt Lake City and Cheyenne, Wyoming, to Denver, thence across Nebraska and Iowa to Chicago.

Three types of bus and stage service at present operating in California are: the railroad feeders, which connect mountain regions with the railroads, largely in Northern California; bus lines which parallel the railroads, from San Diego to Portland, never leaving the iron trail more than a few miles; and numerous lines operating in local areas which compete at stations with electric and steam trains but also pick up passengers at any point along the highway.

Bus or stage transportation has kept pace with the construction of paved roads in the state. The cost of extending a railroad into a new region may be approximately $50,000 per mile, requiring many months for completion; a bus company, on the other hand, is ready to offer service overnight at an initial cost of a few thousand dollars. Every paved highway in California has found a stage line ready and waiting to traverse it as soon as it was opened for traffic.

The one serious drawback to the motor bus is its in-

ability to handle mass transportation. It fails completely when the traffic is so heavy that the surface, subway, or elevated cars cannot be operated as units but must be run in trains. Railways have demonstrated their superiority where large numbers of people await transportation at the same point. However, the bus has won an important place in the public transportation system of California and is now looked upon as a permanent agency both in combination with the railroad and as a frank competitor. What it has objected to most strenuously is that the railroad, after being permitted to discontinue its train service where it will no longer pay, should seek to substitute its own auto bus line service for trains when the bus line company has stood ready to enter those particular fields. Invoking the claim of priority, it has held that while the railroad should be permitted freely to take off its trains if it so desires, it should not be allowed to maintain and tighten its grip on the community irrespective of the character of the transportation it provides.

At the beginning of 1928 there were in California some six hundred bus corporations. Of these the largest operating wholly within the state was the Motor Transit Company. Second to it was the Pickwick Stage Company, which has a greater mileage and more extensive equipment because of its interstate business. Among the other companies—to mention only a few—were the California Transit Company, the Southland Stage Company, the Pacific Coast Motor Coach Company, the California Parlor Car Tours Company, the Yosemite National Park Company, and the West Coast Transit Company. The report of the State Railroad Commission for 1927 shows a total of 33,000,000 passengers carried by bus during that year.

Recognizing the fact that transportation by air is here and must be seriously reckoned with in the future, some

of the stage companies are branching out with air lines, perceiving that cooperation may be preferable to competition. Likewise, the railroad executives are alert to new opportunities further to develop the effectiveness and service of their own lines.

As in the earlier history of the railroads, inevitable tendencies toward consolidation are clearly seen, since the economic advantages of large-scale production and of the law of increasing returns accrue to the auto stage as well as to other forms of public transportation.

One of the important newer phases of motor travel or transportation is observed in the taxicab service, which has become so prevalent and so efficient in all our cities. In spite of the enormous number of privately owned cars in California, the taxi represents an appreciable item, because of its speed, safety, and flexibility. As for the old-fashioned hack, so familiar and ubiquitous on our streets but a short generation ago, one might as well expect to see an Indian *gharry* or Chinese *ricksha* on our wide California boulevards!

Auto Trucks

Auto trucks were first reported by the United States in 1904, there being for that year 411 trucks. Like the pleasure automobile, the truck has undergone almost incredible improvements. Along with the tractor, it made its appearance on many farms. With its heavy load of freight, running up to many tons, and traveling at a rate of speed sometimes scarcely under the legal limit, it called loudly and insistently for heavier concrete pavement and ever-extending highways.

After the early years of exploitation, when the rule of trial and error was of necessity so largely invoked, the use of the auto truck has become much better standardized, and apparently its rightful place in American transpor-

tation is coming to be more fully understood. During the war it proved so helpful as greatly to expand its use and to cause it to take a recognized place in the transportation system. It has come to be regarded, in general, as particularly well adapted to haulage for relatively short distances and more especially of shipments of less than carlots.

With its wonderful flexibility, going from door to door and traveling without interruption to its destination, the truck was quickly recognized as a potential competitor of the railroad. Indeed, before its adaptability and actual power were clearly perceived some rail lines were forced to suspend and others began to lose heavily.

It is not strange, therefore, that the railroads, in many instances, instead of entering the arena of direct competition, which would have been of exceedingly doubtful issue, asked themselves how they might utilize the truck as an auxiliary, with the result that many of the companies are now making regular use of motor units on their own short lines.

Roads for trucks have been built and maintained by the public. While the methods of taxing these new common carriers are gradually becoming more just and equitable, the amount of revenue they have thus far brought to the state is held to be far from commensurate to the benefits they have received; therefore, the trucking business has often been charged with being parasitic—particularly in the light of its road-destroying propensities. Having been thus subsidized by the state the truck was in a position to become a formidable competitor of the railroad—a situation brought about not as the result of a deliberate policy but rather by the absence of any well-defined policy.

To the traveler on many a California highway one of the most frequent sights on the road ahead is the huge

truck with ponderous load—it may be of cotton or cantaloupes from Imperial, or hay or fruit from San Joaquin, or heavy building materials from San Pedro or San Francisco Bay. Long before the dawn, while the masses of the people sleep, the motorist will encounter great caravans of behemoths of the highway almost noiselessly speeding their course to the market place and to the distant consumer. There is something thrilling, something romantic, about the night travel of the auto truck in California, making its way hither and yon, the willing slave of a dynamic people.

Chapter X

CHAPTER X

Skyward, the Course of Empire

HERE INDEED have we the story of magic and super-romance that dims a thousand achievements of a hundred centuries, shedding a luster and a glamor upon the upward striving of man that reaffirms his stature as the noblest work of God. Of aircraft Rudyard Kipling wrote as a seer when he said: "We are at the opening verse of the opening page of the chapter of endless possibilities." That "opening verse" was flawlessly and imperishably written in America, birthplace of the flying machine, by Wilbur and Orville Wright.

Preceding the brilliant achievement of the Wright brothers was the valuable experimentation of Professor Samuel P. Langley, secretary of the Smithsonian Institution, whose pioneer contributions to the science of human flight will be gratefully recalled whenever origins of aviation are considered. It is not amiss to mention here, also, that out in the West, near Eugene, Oregon, George Melville Miller, a brother of the Poet of the Sierras, had reached the conclusion that "if a goose could fly, men could do likewise"; and he was ready to patent his idea in 1890. On October 26, 1892, his air bicycle

brought him a patent for improvements in flying machines.

It is less than two decades ago, from the time these words are penned—a merest speck of time—that the epoch-making aeronautical trials were conducted by the United States Army at Fort Myer, Virginia, and Orville Wright won everlasting fame by flying in a heavier-than-air flying machine. Few were those who believed that the "awkward, home-made, crude box-kite structure could fly." Gas-filled balloons could be comprehended, dirigible air ships were rational and possible; but how absurd to argue that a heavier-than-air machine could ever be really practical as a means of travel or transportation!

Let the alert, ubiquitous reporter on the *New York Herald* (September 4, 1908) remind us of one of the most significant happenings of human history, taking rank with the achievements of Columbus, of Newton, of Galileo, of Watt, and of Edison:

"Orville Wright in his aeroplane flew for one minute and eleven seconds, making three fourths of a mile in distance at the Fort Myer parade grounds tonight. In landing, too steep an angle was made with the ground and a broken right-hand skid resulted, doing, however, little damage.

"While the crowd, grown used to the delays, was audibly wondering whether there would be any flight or whether it was 'all a bluff,' without warning of any kind the machine shot down the rail into the air and away to the end of the field. As it left the rail, which slopes downward, it skimmed the tops of the low grasses, then rose slowly, dipping and bucking, jerking up and down, but always rising until, when it reached the tent, which it did in a few seconds, it was twenty-five feet in the air. A wide smooth turn to the left, the wings tilting in the air at a sharp angle, exactly as a bird's wings tilt when

it is flying in a circle, and the aeroplane was off for the Arlington Cemetery wall.

"Here another half turn was made to the cheers of the wildly excited crowd, and the aeroplane swept up the parade ground. The bucking and jerking continued. The flight was neither smooth, birdlike, nor graceful, but it was flying, not floating. The observers who understood the significance of the sight were most enthusiastic. None who saw it can forget it, or the wonder of this mighty, heavy, clumsy looking mechanism, driven by a tiny motor and carrying a man, sustaining itself in the air by its own power and responding as does a boat or an automobile to the slight touches on one or another of the three levers."

The machine itself had little to boast of either beauty or comeliness—nevertheless, it flew! It could not "taxi," but had to be "catapulted into the air by means of a launching apparatus." Flying near to the earth was considered proper until the first tragic death taught the lesson of looking for safety in altitude. The accident of but a fortnight later resulted in the death of Lieutenant Thomas E. Selfridge and the serious injury of Wright; and so there was offered up the first of that splendid procession of picked young men whose supreme sacrifice has done so much to make aviation safe for all the people.

On October 7, 1924, the new system of air-mail transport between eastern points and Los Angeles became effective, whereby Southern California mail from the regular air line at Salt Lake was separated and sent directly to Los Angeles on the fastest trains, thus obviating the necessity of the sixteen-hour trip from San Francisco. Less than a year and a half later (April 17, 1926) the first regular flight over the Los Angeles-Salt Lake City airway signalized the inauguration of daily air service, which brought New York within thirty

hours of Los Angeles. This was the first commercial air line of real consequence to be established west of the Mississippi, definitely marking the advent of commercial aviation in Western America. "Jimmy" James, pilot of the first mail plane between Salt Lake and Los Angeles, landed gracefully at Vail Field before a thousand persons who had assembled to greet him, stepped from his plane and announced, with a grin, "Well, folks, here's your mail man"; and the people cheered right lustily. A few weeks later, desiring to make up time lost by a delayed plane, this same mail man made a record by flying from Salt Lake City to Los Angeles, a distance of 784 miles, in five hours and ten minutes. Shades of the prairie schooner!

On another May day of the same year, Pilot Lee Schoendair made a preliminary non-stop flight from Portland to Los Angeles, a distance of nine hundred and fifty miles, at an average speed of approximately one hundred and ten miles per hour. And on an early September morn, one minute past midnight, the first north-bound air mail of the Pacific Air Transport Company hopped off from Ryan Airport, Los Angeles, for Seattle.

A significant record was made on November 22, 1927, when a big plane from the Maddux line made the trip from San Francisco to Los Angeles in three hours and twenty minutes. This may be regarded as the forerunner of the three-hour schedule—utterly inconceivable to our pioneer parents!—between the two metropolitan centers of California, inaugurated in the spring of 1928. "It is now possible," so runs the announcement of the Western Air Express, "for busy men and women to arrange their work today in either city, leave at 10:30 a. m., lunch en route, and have the afternoon for business in the other city." A few months later the schedule was rearranged, inaugurating the round trip daily. The tri-

motored Fokker monoplanes have a high speed of 153 miles per hour, they accommodate fifteen passengers and one thousand pounds of express matter, and are equipped with richly upholstered lounge chairs, dining service, and other requisites for the personal comfort of passengers.

The establishment of this model passenger airway between the two major cities of the Pacific Coast, which are now linked by a lighted airway that is second to none, is a tribute to the air-worthiness of giant planes in the balmy air of California and to the air-mindedness of Californians. The Golden State was thus selected by the Daniel Guggenheim Foundation for the Promotion of Aeronautics as America's foremost laboratory, and the Western Air Express has been entrusted to conduct the amazing experiment, the chief conductor being Harris M. Hanshue, president of the company.

Of all the vital marvels of science the airplane alone has been actually created since 1900. The success achieved in aviation within so short a span of years was hardly ever in history even remotely approached by any other human activity of primary significance. Within sixteen years from the day when a young man "rose into the air in an odd-looking structure of his own design and *flew* for 850 feet," the Atlantic was crossed from Newfoundland to Ireland; in 1927, the same ocean was spanned by a lone flyer from continental United States to continental Europe, and the expanses of the Pacific were covered from California to Hawaii in epochal flights.

The year 1927 must stand ever memorable in the annals of transportation. It has aptly been called the "victory year in aviation." The single twelvemonth witnessed in America the development of a national air-mindedness that is at once unique, wonderful in itself, and a prophecy of still more brilliant achievement in future years.

It was in April of that eventful year that Captain Charles A. Lindbergh hopped into everlasting fame and won for himself a place in the affections of men in every quarter of the globe. That flight across the Atlantic crystallized, as it were, in a twinkling the interest in flying that had been for years slowly generating throughout the country. Thenceforth, skyward the course of empire wings its flight! "The world on wings is waiting!" As the ambassador par exellence of the skies makes the air his medium in the course of his unprecedented world friendship tours, winning renown that will never dim and promoting peace among men, he brings nearer to realization the great goal of making men safe for each other, everywhere.

As the toiling Argonauts of '49 on reaching the summit of the Rocky Mountains while they journeyed westward toward California let out the victorious shout, "Excelsior! Excelsior!" so the heroes of the sky in 1927 triumphantly passed "over the divide" in travel by airplane. "The Pony Express Takes to the Air." Powerful beacons have paved "a path of light" from Atlantic to Pacific. "Over the valleys, plains, mountains and deserts, once crossed by the daring riders of the Pony Express, privately owned air-transport companies now carry mail, passengers, and express." Future development and wider accomplishment seem fully assured along the gentler slopes, now that the more rugged mountains are left behind; the air will assuredly be made safe for humanity. In that year the youthful aviator tried his wings, and behold, they were good. In that year Will Rogers, the humorist, was the first to make the round trip from Los Angeles to New York—in eighty-one hours—using only the regular lines. The year's record throughout the nation was as inspiring as it was astounding.

California, the Aviator's Paradise

In this our time of triumph in aviation, California's fair name has been writ large. It was from San Diego that Lindbergh made his preliminary flight to New York in two hops; to California he returned with more than military honors, after his startling and irresistible impact on Europe, on his 22,350 mile flight throughout his country. It was from California that Lieutenants Lester J. Maitland and Albert F. Hegenberger of the Army Air Corps accomplished the distinguished feat of the first successful non-stop flight over the Pacific Ocean from the mainland of the United States to Hawaii, and that Arthur Goebel won first prize in the great air derby sponsored by James D. Dole.

Nothing more beautifully illustrates the romance of the magical transformation in the travel ways of Californians since the days of '49 than an inconspicuous press dispatch of April, 1928, describing how Miss Sue Hill retraced the route followed by her great grandfather in the gold rush. Her journey from San Francisco by regular mail planes ended at Hadley Field, New Jersey, after thirty-four hours' elapsed flying time, "as compared with the months that George G. Gardner and his young bride spent in toiling westward." With her gift of California fruit for the mayor of New York she bore indisputable evidence of an amazing historic fulfillment which, in its turn, is a brilliant prophecy of bewildering future accomplishment.

Just as the great railway network has spread itself over the length and breadth of the country, so, with lightning rapidity, is the network of airways today weaving itself over prosperous America. And now that the post-office department of the Federal government has inaugurated a program designed to give every city of

50,000 or more population air mail service, with greatly reduced postal rates, there is no room for doubt that Americans have entered upon an amazing era of air transportation.

Los Angeles lays claim to being the world's leading city in aviation. In the operation and ownership of planes, the volume of passenger business and air mail service, the number and magnitude of manufacturing plants, supply of airports and amount of capital invested, the southwestern metropolis enjoys the prestige of premiership; and all this is a mere beginning; superlatives belong to the future. Western Air Express operated, in 1928, four air lines—the Los Angeles-Salt Lake City mail run, the Pueblo-Cheyenne mail route, the passenger service between Los Angeles and San Francisco, and the Catalina line.

The Union Air Lines, Inc., makes announcement of a *de luxe* air service over the Pacific Coast, having eastern connections, with palatial 35-passenger, double-decker planes, as well as feeders carrying fourteen and eight passengers, respectively. These lines are carefully coordinated with a well known stage line.

Every city has become deeply—in many cases, feverishly—interested in landing fields. The municipal airport at Oakland is pronounced one of the best in the United States. It leaped into fame by virtue of its connection with the flights to Hawaii by Maitland and Hegenberger, Smith and Bronte, and later by Art Goebel and other contestants in the Dole-Hawaiian Derby. It is in close proximity to the center of the city, consisting of 825 acres of practically level land facing west on San Francisco Bay. It is used by hydroplanes and airplanes alike. For the first six months of the year 1928 there were upwards of 30,000 plane landings at this field. Never, it seems, was there a greater industry, nor one more dynamic and alive than is transportation in the air.

Air-Mindedness

So sudden has been the growth of aviation that the masses of the people have not yet accustomed themselves to the advantages of actual flying. Accordingly, the Daniel Guggenheim Foundation has appropriated a large amount of money and announced the formation of a committee on elementary and secondary aeronautical education "to promote an intelligent and well-informed interest in aeronautics among the young people of the schools." If the next generation is to be truly air-minded and air-wise, the educational program must include well-considered instruction looking to that end, from kindergarten to university. Already schools of aviation and colleges of aeronautics have been founded in considerable numbers, and American universities have added appropriate courses to their curricula. At the convention of high-school principals in Long Beach, in April, 1928, lively interest was exhibited in the Galt High School (Sacramento County) whose principal was the first in the state to offer a course in aeronautics. Between sessions he took fellow principals up for rides in the big biplane, which was the property of his pupils. Increasing numbers of young men are schooling themselves in the various branches of an industry which seems destined to become one of the greatest of the world.

As an agency of national defense and auxiliary to the army and the navy the airplane has come to be regarded as clearly indispensable. The army aviation units with base at San Diego gave a unique and historic exhibition when at the close of the World War, on November 27, 1918, two hundred eighteen planes thrilled the throngs of visitors by flying over the city in close formation. Even greater than this famous flight was the record formation flight of four hundred government planes in

the air at one time, in August, 1928, in connection with the quarter-centennial celebration at the same city, serving as a fitting dedication of Lindbergh Field.

The National Air Races and Aeronautical Exposition held at Mines Field, Los Angeles, September 8 to 16, 1928, proved to be the greatest aerial sporting event in history. Pilots, planes, and exhibits were attracted from all parts of the world. Nothing could act as a more powerful stimulus to commercial aviation in Southern California. Aviation history is daily in the making.

The New Harbinger of Peace

The very swiftness and terror of the death-dealing plane that may develop a bombing radius of more than 2,000 miles proves to be a deterrent to any nation tempted to go to war. Under the phenomenal progress of aviation as a lightning-like medium of transport for the inconceivable forces of modern chemistry, the old saying, "The next war," shows signs of yielding to the newer, more human slogan, "*No next war!*"

More and more the airplane is becoming the harbinger of peace rather than an instrument of war. Commercial aviation and civil flying have become means for "making the air safe for humanity." Of that tall, modest youth who was by acclamation adjudged "America's most attractive citizen"—this marvelous dweller in the upper currents—happily dubbed *Caballero del aire*, "let him know that we love poets," said a member of the Mexican Congress; "with the simplicity of those chosen by the gods, Colonel Lindbergh is opening new ways for his country and for all humankind."

More and more the airways of the nation become the ways of peace and pleasantness, and the flashing lights that send their kindly beams along the lanes of the air

are friendly beacons speeding the aerial wayfarer on his high road to universal understanding. Countries of every continent will be brought closer together; nations will learn to treat each other as neighbors. It may be regarded as highly probable that peaceful uses of aviation —in passenger service, express, mail, freight, photo-survey, fire and forest patrol, and all the rest—will ere long be more efficacious than the erudite philosophy of pacifism in actually preventing war.

As California, whose balmy skies are hospitable to the youthful flyer, fronts the mighty Pacific, its shores a stage for the enactment of the world's next great drama, she will not fail to make her rich contribution to the current of human progress which is for the healing of the nations. Let hers be—

> A path of prophecy that shines and sings,
> Borne upward by the lift of silver wings.

A Vision of Tomorrow

Having traversed "the romantic road to California's yesterdays," we would fondly crave the privilege of peering down the magical highway of California's grand tomorrow.

Since Cabrillo first sailed his little Spanish ship along the Pacific shores, and Francis Drake claimed New Albion for his virgin queen, Portolá and Serra pioneered the way for El Camino Real, Anza and Garcés opened a northwestward way from Mexico for Spanish occupation, Yankee captains and knights in buckskin introduced American influence into California by sea and overland, pioneer princes came as home-makers, myriads of gold hunters crowded the trails with prairie schooners, dashing stage-drivers and plucky riders of mustang ponies foreshadowed the coming of the iron horse and the electric telegraph, great national highways have come to

bear an ever-increasing traffic of automobiles, with vast human freight, rolling luxuriously hitherward, and overhead the airplane comes, with the wings of the wind, to bear swift messages from afar.

But what of tomorrow?

Dynamic

One of the anomalies of economics lies in the fact that the more rapidly society approaches the static condition, or ideal state, the more highly dynamic in reality it is. The bewildering progress in transportation and communication that characterizes our generation might seem to argue geometric progression toward a final goal almost attained; but our review of past achievement in our own commonwealth, and from the vantage ground of history, our scanning of contemporary horizons admonish us that there never was a time in the past when continuous progress and sustained dynamic conditions were more amply assured than in our glorious tomorrows.

Electricity, master-servant of modern man, will be increasingly utilized, and for purposes not yet even dreamed of by prophet or seer. As long since, glittering "Yellow Gold opened the eyes of the world to the beauty and opportunities of a glorious commonwealth," White Gold in our new day makes possible for California's mounting population gainful employment and wider, richer life.

Our rivers are being harnessed, our mountain lakes set to work, the eternal snow does obeisance to masterful men. Giant power will become yet more powerful as it becomes more abundant and is taught more completely to obey its master's will.

As to the railroad, we may be sure it will long continue as a prominent factor in transportation, though it can scarcely be expected to maintain the complete premier-

ship it has enjoyed for a generation. During the first quarter of the century of its career it demonstrated its undoubted supremacy over all American competitors—its power and adaptability became outstanding features of the rail highway. But within the first quarter of the twentieth century we have witnessed a development of human mobility more revolutionary than had been achieved as a result of all methods of transportation during the long course of human history.

In the future, therefore, the railroad may be expected to show, in California as elsewhere, an orderly development rather than radical change. There is every reason to expect that electrification will be greatly expanded, difficult grades will be improved and reduced, double and multiple tracks will be installed as demand increases. Steam locomotives will continue to be improved, particularly through the application of higher steam pressure, thus making possible greater speed for passenger trains. The improved freight train will continue as the chief agency for transporting a great variety of merchandise over considerable distances.

It is freely predicted that within another quarter-century there will be fifty million automobiles in the United States. Her location, size, natural and cultural advantages, will place California first among the states in the use of motor-driven vehicles and in the construction of good roads. The hordes of gold hunters that pushed their way over incredible obstacles to the sunset land will seem a handful when compared with the never-ending caravans of motorists rolling light-heartedly into the borders of the Golden State over well-paved cross-continental highways several hundred feet wide, at seventy-five miles an hour or better. Skilful engineers are finding ways of overcoming hitherto insurmountable obstacles. Even as great national highways win a

secure place in the realm of the practical, the proposed international all-American highway from Ottawa to the tip of South America, planned by the Automobile Association of America, captivates the imagination. This highway when completed will measure 12,500 miles. As a superb engineering feat it will stand as a triumphant achievement of men's skill; but even this will be exceeded by its historic importance as an amalgamating influence for the firm and lasting peace of the Western Hemisphere.

Bold indeed is he who would venture to envisage the future development of navigation of the high air! To aver that progress in aviation will continue is the merest commonplace,—progress *is* continuing, with bewildering rapidity, before our very eyes, almost daily. It is beyond the ken of even the most prescient to know the wonders that a single decade—nay, a single year—may reveal.

Until 1918 there were no commercial air routes continuously operating in America, for it was then that the experimental air mail route was established between New York and Washington. What marvelous advances have been achieved during the past decade! And who can doubt that the next will be even more astounding? The dream of yesterday will be dwarfed by the reality of tomorrow.

All important centers will be connected by means of mapped and charted skyways. Powerful beacons will flash from giant towers, turning night into day for the intrepid airman. The magnificent distances up and down the Pacific Coast will be bisected and trisected by safe, silent, swift-moving planes of revolutionary patterns and principles, carrying all manner of freight as well as mail and passengers, while great dirigibles go cruising carelessly about with their scores of comfortable travelers. San Francisco and Los Angeles—century-old rivals of California—will be like brother and sister within the

Franz Gertz

same family circle. New York will be less than a single day from California; and leviathans of the air will cruise continuously across the seven seas and from continent to continent with adequate terminals and landing facilities for the convenience of all. It hath not entered into the mind of man to conceive of the population of the skies and the navigation of the air of the future that awaits. Here is a factor that must inevitably play a puissant part in the economic development of California, the Pacific Coast, the United States, and the world at large. California's climate, together with her great open spaces, vast natural resources, and the enterprise of her rapidly augmenting people will make her more and more the world's aviation center.

Perhaps more startling still will be the political consequences in the future age of speed. The giant airship, instead of being an instrument of strife, may soon be likened to a Noah's Ark to preserve the race from the devastating cataclysm of another world war, and the flitting airplane will be the dove that carries the olive branch instead of the deadly bomb.

Mars cannot long survive the assaults of the coming age of aviation. From the vantage ground of a generation educated in world friendship, chemistry and air-craft will at last put war utterly to rout. Because men and peoples will be better schooled in the art of living together, and because any other course will be plainly suicidal in the presence of the power and the speed of the coming day, the very engines and agencies of war will help inaugurate the permanent era of world peace.

One further observation may be made regarding the future transportation, which seems particularly applicable to conditions in California as well as in a general way everywhere. That has reference to the effective coordination of the several factors and units in the interest

of the common welfare. The well-understood tendency toward combination and consolidation in railroads because of the principle of increasing returns and the economies effected by large-scale operation will unfailingly apply to other forms of common carriers, whether motor coaches, auto busses, or various types of air craft. Consolidation, long thought of as subversive of the general weal, is now, under wise control, not only deemed inevitable but it has come to be viewed as likewise desirable.

Nor can this tendency be restricted within the respective fields of railroad, auto vehicles, and air craft; it has already begun to show itself in combinations of wider character. Numerous railroads have invoked the motor coach and the motor truck as useful auxiliaries; passengers will cross the continent in two and a half days or less by a combined air and rail system—much of the air travel being restricted to daylight hours for added pleasure and comfort. By utilizing train sheds as landing fields, planes will find it feasible to land in the heart of a city. Mechanical improvements will continue apace.

The highest utilization of the great economies that may be effected by combination can be brought about only by conscious, scientific coordination; for otherwise there is much wasteful competition, unnecessary duplication of forces, and serious resultant disutilities. Individual and corporate enterprise may be depended on to seek the line of least resistance to profits, but in an enlightened community the public interest transcends private profits, and reasonable coordination becomes a just function of the state. Government control must not be suffered to proceed to the extent of quenching individual initiative, but on the other hand the application of a policy of complete *laissez faire* to the increasingly complex social organism becomes more and more unthinkable. As the government itself is but the machinery

by means of which the state does its work, so a wise and moderate public control over the great public utilities is a beneficent means of promoting the well-being of citizens in the state without sacrificing individuality or that precious initiative which gave to America the great West and California. Along with the power and speed in the transportation and communication of the future, —about which there can be no doubt—there must be a generous measure of the saving grace of coordination, with the subordination of all to the noble end of human betterment.

Oxcart to Airplane

PART II

BY SEA TO CALIFORNIA

By William S. Ament

CHAPTER XI

Primitive Navigation

WHO WAS the Jason, the Ulysses, of the Pacific? Who the Leif Ericson? Was there a land passage for the feet of the first American Indian, or did this mythical bronzed gentleman drift miraculously along the Japan current clinging to a log or perched upon a whale? Pre-history in abeyance, the story of water transportation across the rivers and along the coast of California begins with a family of almost naked Yuma Indians, a drift log, and the turbid waters of the lower Colorado River. The man, the obstacle, and the tool to overcome the difficulty—these form, indeed, the eternal triangle of the romantic drama of man's conquest of rivers and the sea, the first act of which we may view as spectators with Archbishop John B. Salpointe, who describes it in his *Soldiers of the Cross*:

"For a Yuma to ride a stick on the river, and to carry on it his little luggage, is of common occurrence, and it seems to the bystander the easiest thing to be done. In fact, what is required for a voyage of that kind is to pick up a convenient stick or pole from among the many that generally lie on the shore, and to tie at one end of it the bundle of garments and some food, if necessary, for they consider it easier to return by land than by water, up the

river. After the tying of the baggage, the man sitting on the other end sets out breast-deep in the water, rowing with his hands, while the package, which, of course, must be lighter than the man, goes ahead of him, protruding above the surface of the river, high enough to be protected against moisture. In case it be necessary to carry heavy loads, then a raft is built by tying or coupling logs together with ropes or strips of rawhide, until the desired space for the cargo is obtained. In regard to the Yuma Indian women, who can cross the river swimming as well as the men, they use another kind of embarkation for their young children, when they want to pass them from one side to the other of the river. The process is very simple: the papoose is placed in a rather flat earthen 'olla' (jug), which is put afloat, and then pushed ahead in the desired direction by the swimming mother."

The ollas, which were often as large as three feet in diameter, served also for the transport of clothing and articles either more valuable or more easily damaged by water. But a rough raft, far from water-tight, was the common means of conveyance. Thus the Mojave and Yuma Indians, although living for ages along the banks of the Colorado, were satisfied with the easiest makeshifts in place of the efficient canoes of other tribes of the stone age, and have remained into our own times the type of those who are too easily content.

Balsas

The second stage in the evolution of Indian navigation was common to nearly all the tribes of California where conditions permitted. It consisted of bundles of reeds tied together and varying in form from a raft of a couple of large and loose bundles to fairly well-shaped floats of closely bound tules, tapering at the ends and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capable of being propelled slowly by means of poles or even paddles.

How seaworthy these balsas were may be gathered from Alexander Forbes, who wrote in his *History of California*: "In calm and smooth water the centre parts of the raft may be dry, but more commonly the rowers sit on them soaked in water, as they seldom rise above the surface." Nevertheless, the Indians ventured out upon them in many of the coves and bays of the long California coast. On October third, 1775, for instance, Father Francisco Palóu reported the visit of the little schooner *San Carlos* to "the Port of Captain Bodega": "As soon as the schooner dropped anchor, more than two hundred Indians of both sexes, small and large, hastened to the beach, giving lively manifestations of pleasure. A tule raft approached the schooner with two heathen who gave our people some of their pinole made of seeds, and a little cape made of tule fiber which they used in place of clothing. Our people accepted these poor things in appreciation of the good-will with which they were offered, and the captain responded with beads and other little gifts, with which they went back to the shore happy, and the whole night they were on the beach with their fires, apparently entertaining our people, spending the night singing and dancing." On the next day such a heavy sea came up that the ship's canoe was smashed and the *San Carlos* itself was in great jeopardy. But, we are safe in assuming, the spongy little balsa was safe on the beach.

Dugouts

Far to the north, the Yurok Indians on the Trinity River and, between them and Cape Mendocino, their lesser brothers of the Wiyot tribe along the lower Eel River, had the advantage of forests of redwood close to the water. Long before the white man came, these far-strayed

outposts of the northeastern Algonkin race had learned from their neighbors of the later Oregon territory how to shape canoes out of half a redwood log. The felling of one of these forest giants was usually too much for the men of the stone age. But drift logs of the right size were laboriously cut into sections and split. Fires were then built down the center and well replenished and guarded until the heart of the tree was burnt out. Mussel shells, as large as could be found and sharp along the edge, were then fastened into the ends of stout sticks and laced in place with rawhide. With these crude adzes the Yurok shipbuilders would chip away at the hull of their boat until it was quite symmetrical and neatly finished. Its rounded sides and flattened bottom were adapted to the shallow waters of the local streams, and its blunt prow, rising to an obtuse back-leaning point, would skim easily over the ripples. It was not fitted, however, to cope with the waves of Humboldt Bay.

Boats Sewed with Rawhide

Of all the California Indians only the Chumash people of the Santa Barbara Channel and the Gabrieleño tribes of the Santa Catalina Island were seamen with boats worthy of the name. Enthusiastic descriptions of their equipment and their skill are recorded by a number of the early chroniclers. We meet them first in the stories of the expeditions of Cabrillo and Viscaíno in 1542-43 and 1602-03 respectively. But the vivid reports of Miguel Costansó and Father Crespi are introduction enough. Writing in his diary of the Portolá Expedition of 1769-70, under the date of Monday, August 14, 1769, Costansó describes the Indians of what was later to be the Mission of San Buenaventura, adding:

"Their handiness and ability were at their best in the construction of their canoes made of good pine boards,

well joined and calked, and of a pleasing form. They handle these with equal skill, and three or four men go out to sea in them to fish, as they will hold eight or ten men. They use long double-bladed paddles, and row with indescribable agility and swiftness."

In his *Narrative*, based on the diary just quoted, Costansó adds a few vital details which are essential for the understanding of the construction of the Channel canoes:

"They are from eight to ten yards in length from stem to the stern-post, and one yard and a half in breadth. No iron whatever enters into their construction, and they know little of its use. But they fasten the boards firmly together, making holes at equal distances apart, one inch from the edge, matching each other in the upper and lower boards, and through these holes they pass stout thongs of deer sinews. They pitch and calk the seams, and paint the whole with bright colors."

Father Crespi echoes this description in his account, but adds that the "boats, which are made of good pine boards, well joined together . . . have a graceful shape and two prows."

For the Chumash Indian the building of a ship was a serious undertaking on which he and his fellows might well expend their greatest ingenuity. In the territory of his tribe and of the southern and island Indians of similar but somewhat inferior culture there were no large trees ready for use along the banks of streams or on the shore. Drift logs of redwood from the north might sometimes come as gifts of the gods, but for the most part the shipbuilder had to fend for himself. To go up the valleys to acceptable timber was feasible enough; but to drag down a log large enough for a canoe was another matter. Perhaps part of an old dugout might be salvaged for the keel and as much of the bottom as it would provide, or perhaps a small log could be procured for this purpose.

But the sides of the vessel needed to be built up. Armed with adzes of mussel shell and axes of stone, the builders would tramp in as far as necessary to find good straight-grained timber. Splitting off slabs and chipping them down to boards was not an easy task, but it could be done, and the planks could be carried down on shoulders used to hard rowing and heavy burdens.

The siding once on the beach and shaped to fit keel, bow and stern, the apparently endless task of drilling the holes would begin. But here the bow-and-thong drill, pressed down by a stone brace in which it turns, spun back and forth by the loop of rawhide on the "fiddle stick," and eating into the wood with its sharp quartz point, proved much more efficient than one would suppose. The same instrument served to pierce the fine eyes of the bone needles, to drill the holes of the small shell beads, and, indeed, to turn a shell into a fish-hook.

The channeling from the holes to the edge of the boards was probably harder to manage than the holes themselves. But the carpentry once finished, the lacing and calking would go fast enough. Rawhide or sinews were always at hand and asphaltum was easily obtained. There were seepages of this useful heavy oil on the Channel islands and at convenient points along the coast.

Outrigger Canoes?

Such is the brief chronicle of primitive seafaring on the California coast, as far as it is definitely known. But the imagination cannot stop here. Other possibilities are too alluring to ignore. Did the Polynesians ever reach the coast? Certain dim traditions of the Hawaiian people indicate a mythical origin "from the coming up of the sun." While the point of distribution of the islanders was undoubtedly in the South Seas, there yet may be some glimmer of truth in the old story. Certainly it would be

entirely possible for the Hawaiians to make the voyage in one of their long outrigger canoes, or rather in two of them laced together for such an extended sea journey. By sailing north the islanders could reach the southern edge of the Japan current which would aid their eastward trip, as it did that of the old Manila galleons. The problem would be the carrying of sufficient food and water for such a long and probably unplanned trip.

The legendary history of the Polynesians makes such speculations far from foolish. We are told that "once upon a time" they were much better mariners than at present; that they built large decked ships in which more than a hundred persons could be carried, together with supplies and water sufficient for a voyage of some weeks; and that these ships were "made of planks well fitted and sewed together, the joints being caulked and pitched" (with cocoanut fiber and the gum of the breadfruit tree). It is beyond dispute that the Polynesians had some knowledge of stars and of the position of certain constellations at different times of year. And finally no one can deny that in some fashion, not supernatural, they reached the Hawaiian Islands from other inhabited archipelagoes, on which the only likely ports of departure are farther than the distance from Honolulu to San Francisco. The question of resemblance between certain racial strains in the two Americas and the Islanders may safely be left to the ethnologists. But the possible appearance on the Californian shores of visitors from the islands of the enchanted southern seas, if not an established fact, is at least a not impossible fancy which no amateur of the sea, soaked in Melville and Stevenson, can put aside.

Junks

Speculation about the possible visitations of Chinese junks and Japanese sampans is also inevitable. There can

be not the slightest question about the ability of these craft to make the voyage, either creeping from island to island along the Kurile-Aleutian line or sailing and drifting across farther south in the Japan current. The sampan, familiar to every visitor to the ports of Nippon and Cathay, may be anything from the traditional "three boards" of its name to a small junk, and its use anything convenient from a dinghy to a river scow, a fishing boat, or a small cargo vessel. The smaller ones are propelled by long sweeps, but the larger ones rely principally on a sail of matting or cloth reinforced by ribs of bamboo.

The Chinese junk, however, although but a sampan grown up, is a much more elaborate affair. The tonnage of the sea-going junks varies between 300 and 800. The superstructure of elaborate workmanship rises moonwise, the dip of the curve starting with the high poop and swinging up again to the square bow. Above, two stout masts and a small single or paired mizzen carry the picturesque but ponderous sails stiffened with battens of bamboo. The slipper shape of these vessels, and their consequent appearance of clumsiness, conceals a remarkable seaworthiness due to the fine lines of the hidden hull, which is often as well proportioned as the bottoms of the better vessels of the old sailing ship days. Beneath the water only the rudder is clumsy, often taking the form of a tremendous rectangle of heavy wood and metal weighing as much as seven or eight tons and drawing considerable water below the keel itself.

Sampan and junk have the greatest difficulty in beating against the wind. Junks of all sizes are, for this reason, in spite of their known seaworthiness, liable to be blown out of their courses and to experience unplanned adventures in strange waters. Typhoons make havoc with their slow progress back to port; off-shore winds fre-

quently hound them; and the Japan current sucks them away toward the unknown North and East. In various stages of distress these ships have been picked up in all parts of the northern Pacific and some have even reached the lower coasts of California.

"In the year 1814, I was sailing-master of the British brig *Forrester*, Capt. Pickett, cruising off Santa Barbara, Calif.," Captain Adams, the first pilot of Honolulu harbor, told the editor of *The Friend*. "We fell in with a Japanese junk, drifting at the mercy of the winds and waves. Although the wind was blowing a gale, I lowered and visited the junk. A sad sight was presented. Fourteen of the crew had died, and their bodies had been cast into the hold of the junk. Three alone survived, the captain, carpenter, and one man. These were removed to our vessel, and carefully nursed, and in a few days they were well. They were taken to Santa Barbara, and from thence to Kamtchatka, and, as I understood, were sent home by the Russians." Tragic as has been the fate of junks drifting across the Pacific utterly unprepared for the ordeal, cheerful enough has been the voyage of vessels equipped for the long adventure. On August 28, 1849, Albert Lyman wrote in his journal: "A Chinese junk came into port [San Francisco] yesterday and anchored a little ahead of us. Her sails are made of matting, and altogether she is a singular and queer-looking craft. Her Chinamen on board seem to be quite active sailors."

Finally the voyage of the *Whang-Ho* (*Yellow River*) may be cited as an example of the prowess of the Orientals in conquering the Pacific. The ancient vessel, which was more than a hundred years old and had had a long and lurid history as a pirate ship, made a safe crossing to San Francisco Bay. She next sailed down the coast and attempted to round the Horn. Here a storm carried away her ponderous rudder and made the Atlantic voyage im-

possible. Deprived of her means of steering, she nevertheless limped across the South Pacific, touching at Tahiti and eventually reaching Australia.

Records of voyages, and even tales of disasters, prove some contact between Asia and America. Certain Chinese traditions show a knowledge probably of the coast of Mexico. Still historians and ethnologists are uncertain whether to attribute to Mongolian blood or to Chinese culture any appreciable influence on the aborigines after their first establishment on the American continents.

To the little ships of Juan Rodríguez Cabrillo and to the packets, frigates, and galleons of New Spain must go the credit of bringing to California the soldiers and the priests of a new dispensation.

Chapter XII

CHAPTER XII

Tubs and Galleons

IN EARLY June, of the year 1709, the harbor of Manila in the far-away Philippines bustled with activity; for the *Bigonia*, galleon of 900 tons, and her consort, *Nuestra Señora de la Encarnación Desengaña*, a ship of 400 tons burden, were taking on the treasures of the East for the annual voyage to New Spain. Caravels bringing cotton cloth and beaten brass from India, spices from the Moluccas, and curios from Siam, lay quietly at anchor, having already transferred their coveted cargoes. Chinese junks, loaded with lacquer ware and porcelain, toys, tea and silk, took their turn in disgorging their treasures into the capacious hold of the towering galleon. Lighters and longboats brought out from the city the crates and barrels collected there during the winter. And the canoes and dugouts of the native Filipinos clustered around the companionway, contributing the wines, sugar, chocolate and fruits which would soon be so desperately craved.

Calm merchants and anxious speculators watched the crew of mixed-bloods stow away the precious cargo under the direction of boatswain and mates. The officers themselves were more than mere executives, for each one had a private part in the venture, besides contracting to

provide food for one or more of the passengers. The cargo packed away somehow in every available space, the passengers came to get settled as best they might in the crowded cabins of the towering poop. Merchants of Manila and Mexico, with their dark-eyed wives in shawls and mantillas, Dominican fathers, and scores of adventurers made up the roster.

The return of the captain from a last formal visit to the governor was a sign that all was ready for the departure. As he mounted the companionway from the governor's longboat, disappeared into the stern castle, and finally came out onto the upper deck, it was easy to realize that he had been an officer of the Royal Navy, a noted navigator, a commander of men, and on necessity a fighter.

The ponderous anchors were weighed, the great square sails spread bellying to the wind, the royal ensign flashed in the sun, and with the roar of the salute, answered from the fort, the great *Bigonia* and her consort were off on the annual voyage of the Manila galleon to Acapulco.

Cautiously, but without fear, the two ships struggled with the variable winds in the slow process of beating up to the coast of China. The latest news was that no British or Dutch pirates were this year raiding the East Indies; but one could never be too sure. Off China six weeks later there was only occasional anxiety. Of course there were plenty of pirate junks lying in wait for what they could pick up. But forty-gun galleons were too formidable to be directly attacked. Only if that dark cloud in the north should prove to be a typhoon—it was almost the season for these terrible storms—and if something should go wrong, these Chinese sea scavengers might be frightful enough!

Hardships

Even before sighting the coast of Japan, that grimly closed country, and bearing away, ever so slowly, on the current which would ultimately carry them across, the passengers were getting restless. They danced—whirling around in the one or two small open spaces of the deck. They improvised games, and sang the old mournful songs of mother Spain. They had cock fights until there were no plucky little birds left. The fruit and all fresh food had long since been devoured. To save money the officers locked up the sweets and dainties that were left. There was nothing to do but gamble, grumble, and fight. Gemelli Careri, a passenger on the galleon a few years previous, thus described his troubles:

"The poor people stow'd in the cabins of the galleon bound towards the *Land of Promise* of *New Spain*, endure no less hardships than the children of *Israel* did, when they went from *Egypt* towards *Palestine*. There is hunger, thirst, sickness, cold, continual watching (wakefulness), and other sufferings, besides the terrible shocks from side to side, caus'd by the furious beating of the waves. I may further say they endured all the plagues God sent upon Pharaoh to soften his hard heart; for if he was infected with leprosy, the galleon is never clear of an universal raging itch, as an addition to all other miseries. If the air then was fill'd with gnats; the ship swarms with little vermin, the *Spaniards* call *Gorgojos*, bred in the bisket; so swift that they in a short time not only run over cabins, beds, and the very dishes the men eat on, but insensibly fasten upon the body. Instead of the locusts, there are several other sorts of vermin of sundry colours, that suck the blood. Abundance of flies fall into the dishes of broth, in which there also swim worms of several sorts. . . . I had a good share in these misfortunes; for the

boatswain, with whom I had agreed for my diet, as he had fowls at his table the first days, so when we were out at sea he made me fast after the *Armenian* manner, having banished from his table all wine, oil and vinegar; dressing his fish with fair water and salt. Upon flesh days he gave me *Tassajos Fritos*, that is, steaks of beef or buffalo, dry'd in the sun or wind, which are so hard that it is impossible to eat them, without they are first well beaten like stockfish; nor is there any digesting them without the help of a purge. At dinner another piece of that same sticky flesh was boiled, without any other sauce but its own hardness, and fair water. At last he deprived me of the satisfaction of gnawing a good bisket, because he would spend no more of his own, but laid the king's allowance on the table; in every mouthful whereof there went down abundance of maggots and *Gorgojos* chew'd and bruis'd. On fish days the common diet was old rank fish boil'd in fair water and salt; at noon we had *Mongos*, something like kidney beans, in which there were so many maggots, that they swam at top of the broth, and the quantity was so great, that besides the loathing they caused, I doubted whether the dinner was fish or flesh. This bitter fare was sweeten'd after dinner with a little water and sugar; yet the allowance was but a small cocoa shell full, which rather increas'd than quench'd drought. Providence reliev'd us for a month with sharks and *cachorretas* the seamen caught, which, either boil'd or broil'd, were some comfort. Yet he is to be pity'd who has another at his table; for the tediousness of the voyage is the cause of all these hardships."

The north wind freshened, there was fog at night, and soon they sighted Cape Mendocino. No stop was contemplated on the California coast, but the sight—the occasional smell—of land was most inspiriting. Now, too,

there was something to be done besides endure. At this happy time the consort sailed unaccountably ahead and for several days was out of sight. All the more need of preparation for the possible attack of Pichilingues—those devils of Dutch and English pirates, who made Puerto Seguro, just around the point of Cape San Lucas, their base. The captain gave the orders. The forty guns were limbered up. The bulwarks—nearly four feet thick—were practically impenetrable. But those buccaneers under Drake and twenty-two-year-old Cavendish had managed to swarm over and knife the defenders. To prevent this the deck of the *Bigonia* was roofed over with lumber and canvas brought for the purpose. Goods were piled to furnish maximum protection. Men were assigned to their stations. Balls and powder were distributed. And the stink pot was prepared for its deadly work.

Pirates

As the two Spanish ships sailed down the coast a day or two apart, three small vessels lay in wait under the command of those notorious freebooters, Captains Woodes Rogers, Stephen Courtney, and Edward Cooke. On December twenty-second—but let Captain Cooke himself tell the rest of the story:

"December 22, 1709, being busy in the aforesaid Port [San Bernabe Bay or Puerto Seguro] fitting the Ship *Marquis*, then under my Command, I being order'd before in to fit the Ship, and then to cruize till the others were ready, at Ten in the Morning heard some Guns fir'd in the Offing, near the Cape; I bent our Sails in order to go out and join our Ships, but the Sea Breeze coming in, prevented me; whereupon I went up a Hill, and saw our Ships engage and take the lesser of the *Manila* Ships, which we had been so long expecting. The Action

lasted not half an Hour, before she was in our Possession; they then lay by, and in the Afternoon we saw them standing in for the Harbour, being distant about six Leagues, the Wind from N. W. to E. S. E.

"December 23. In the Evening our Ships came in with the Prize, being a ship of about 400 Tuns, carrying 20 Guns, and 20 Brass Pedreros, commanded by Sir *John Pichberty*, a *French* Gentleman, and Brother-in-law to Monsieur *du Gass*. Before the Engagement, had 193 Men aboard, out of which about 20 were kill'd and wounded. On our Side, only Capt. *Rogers* was wounded in the Cheek, and one of his Men in the Buttock. The Prisoners informed us, that this Ship came out with another great one, both bound from *Manila* to *Acapulco*, with *India* Goods. This Prize is called *Nuestra Señora de la Encarnacion*, that is, *Our Lady of the Incarnation*. We were farther informed by the Prisoners, that the Cargo in *India* amounted to two Millions of Dollars, and that the other ship was of much greater Value. They said they were parted from her in the Latitude of 35 Degrees; whereupon it was resolv'd in a Committee, that Capt. *Courtney* in the *Dutchess*, and I in the *Marquis*, should go out immediately, and cruize eight Days for the said other Ship."

"Sunday, December 25, being *Christmas* Day, at Eight in the Morning, were two Leagues off Cape St. *Luke*, and saw a Sail bearing S. W. distant about seven Leagues, which we concluded to be the great *Manila* Ship."

On account of light winds, the piratical celebration of Christmas Day had to be postponed. A running fight lasted most of the next afternoon. Finally on Tuesday the twenty-seventh, according to Capt. Cooke:

"The Enemy fir'd at us all three at once, but slow, seldom missing our Masts and Rigging, and sometimes hulling us. After lying near half an Hour along the


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Chaseside, the *Dutchess* lay by to stop her Leaks, and secure her Fore-mast, being very much disabled, having 25 men kill'd and wounded, and the Sails and Rigging much shatter'd. Capt. *Rogers* some Time after lay by to secure his Mast. Then I lay a-thwart the Enemy's Hawse, till I had fir'd three Broad-sides, some odd guns, and several Volleys; then gave another Broad-side, and some Volleys into their Stern. The *Duke* came up again by this Time, and fir'd several Guns, and both fell a-stern the Chase, keeping under Sail, and standing to the *Westward*. We knotted some of our Rigging, and stopp'd our Leaks made with Twelve Pounders. Our main Mast was disabled also, the Sails and Rigging much shatter'd; but the Enemy aiming to disable my Masts. I had the good Fortune to have only my second Mate, and some others blown up with Powder. The Ship was once set a-fire by the Enemies Stink-Pots, with which I stunk several Days intollerably, but we soon put it out. About Eleven I wore the Ship, and design'd to attack the Enemy again, making all the Sail I could after him; but seeing the *Duke* and *Dutchess* lying by, the one with a Waist in his Ensign, and the other with a *Spanish* Jack, the Signals to speak with one another, I brought to, Capt. *Courtney* came Aboard of me, and we both went Aboard the *Duke*, where we found Capt. *Rogers* wounded in the Heel, and some others hurt and blown up. We held a Council there, and design'd to have engag'd again; but the Carpenters and Men viewing the Masts, and finding them unfit for Service, and the Prisoners who were examin'd, telling us, if we enter'd 500 Men, we should lose them, the Enemy being provided with false Decks, which we saw when along their Side, and their Ship so strong, that I believe our Shot in some Places did but little Damage, it appear'd, by the Opinion of several, absolutely necessary to alter our

Resolution. On our Side, we had several of our best Men poison'd with eating some Fish, and scarce able to stand just before we first engag'd; but the Doctor gave them something, and they soon recover'd. We fir'd above 300 great Shot, about 50 Cross Bars, and two great Chests of Steel Bars, besides abundance of Partridge small Shot, and above nine Barrels of Powder, in the *Marquis*. The Enemy was a new Ship, could mount 60 Guns, but had not so many. I had but 18 Guns now on Board the *Marquis*, six of which were very small, and but a meer Shell of a Ship. If the Enemy had fir'd at the Hull, as he did at the Mast and Rigging, he consequently must have shatter'd us almost to Pieces. Our Officers and Men behav'd themselves bravely. To give the Enemy their Due, they defended themselves very well. But we might as well have fought a Castle of 50 Guns, as this Ship, which had about 40, and, as some of the Prisoners told us, 600 Men, whereof 150 were *Europeans*, many of them *English* and *Irish*, some of which had been formerly Pirates. The Gunner was a *Genoese* born, had an Employment at *Manila*, and 30 of the best Men belong'd to him, which made them fight desperately. However, Capt. *Courtney* and I were for carrying of him by Boarding, and design'd to make another attempt; but at the Council Aboard the *Duke*, it was thought more advisable, by the Majority of Voices, to forbear making any farther Attempt, our ships being in so ill a Condition in that remote Part of the World."

Men of Iron

This composite picture of a voyage of the Manila galleon, which for two hundred and fifty years annually sailed down the coast from Cape Mendocino to Cape San Lucas, proves how completely the coming of the Spaniards in 1542, transformed the entire plot of the romance

of the sea and California. The chronological story of *The Pathfinders* is told elsewhere, but their difficulties and achievements at sea make also an essential chapter in the development of navigation.

The men concerned were no longer apathetic Indians or Orientals driven by accident from their home waters, but hardy and determined Spanish or Portuguese commanders, trained under the influence of the conquistadores and contemptuous of danger. Their names roll from the tongue like those of the heroes of some half-forgotten epic of the western world: Cabrillo, Ferrelo, Arellano, Gali, Cermeño, Vizcaíno. During the week of October 18, 1542, on the Island of San Miguel, Rodríguez Cabrillo, in command of the first successful expedition to California, fell and broke his arm near the shoulder. Not at all daunted, he continued to lead the expedition until January 3, 1543, when, after three months of suffering, he died from the effects of his accident and the lack of proper care. Nor did this tragedy in the least deter his successor Ferrelo, who in spite of the (temporary) loss of the second ship went on to a point 1,500 miles north of his base of supplies. On January 21, 1597, Sebastián Vizcaíno faced an ordeal similar to that of Cabrillo. In the storm, which was battering the *San Diego*, "the pitching was so violent that it threw both sick and well from their beds and the general from his. He struck upon some boxes and broke his ribs with the heavy blow." Vizcaíno, too, retained command of his ships and brought them back to Acapulco, luckily without fatal result from his injury.

Under the iron leadership of such commanders, the crews of Indians and mixed bloods of every shade and degree showed remarkable stamina. In ingenuity and initiative they may not have had much to contribute, but under orders they faced the greatest hardships and

bore—if they survived at all—the most heart-breaking disasters. They shipped, or were conscripted, for voyages in open boats or pontifical galleons, always with the assurance of constant hardship and occasional hard labor, beside which the exertions of the modern convict are but setting-up exercises, and with the certainty of scurvy, if not of "fevers" or distempers for which in those days there was no sweet oblivious antidote. A week before "General" Vizcaíno suffered his painful accident, for instance, "it was decided . . . that it was perilous to continue since there were not two men who could ascend to the topsail, winter was coming on, and navigation of the coast dangerous." Meanwhile, "Admiral" Gómez had returned with the consort, *Santo Thomás*, arriving in Acapulco with only nine men alive out of his crew of thirty-four.

Obstacles

Captains and sailors alike would not have had to undergo these sufferings, had the obstacles besetting the sea route to California been insignificant. First of these obstacles was the distance from any source of supply. California, "the back side of America," was almost the ultimate antipodes of Western Europe. It was even 5,000 miles off the route of Magellan's party in their epoch-making circuit of the globe.

In the face of a voyage around the Horn, the little excursion from San Blas or Acapulco would seem but child's play. Nothing, however, could be farther from the truth. The distance was magnified by the adverse currents, winds, and storms—meteorology furnishing the second barrier to be overcome. The trip across the Gulf to Cape San Lucas was a serious undertaking. Isidro Atondo y Antillón, in charge of an expedition consisting of three ships and about a hundred men, was

held up by winds, waves, and storms for two months in 1683 before he could get across even to La Paz. During the days when Father Salvatierra was in charge of the Jesuit missions of Lower California an average of about one ship a year was wrecked in the crossing. The turning of the cape was equally dangerous and often wasted weeks of valuable time. But even the open sea was hostile to the northward sailing vessels. The California current was increasingly against them as they beat up the coast. The prevailing winds were discouragingly from the north. Under these conditions it is not surprising that supply ships often took three months for the trip from Acapulco or Mazatlan to Monterey, a distance easily covered by a steamer in four days.

In case of storm the Spanish mariners encountered their third great obstacle—the scarcity, the almost total lack, of safe natural harbors. The islands gave some protection as far north as Santa Barbara, and San Diego Bay was always a welcome harbor of refuge. But the first ship did not sail into San Francisco Bay until 1775, and above San Diego no other port along the thousand miles of California's exposed shore line was safe in all weathers. For sailing vessels even San Francisco Bay was of little use in time of actual storm, since the entrance was too difficult to manage. As late as 1878, during one of the severest storms of that half-century, "the coast line steamer *Orizaba* had to pass every stopping place between San Diego and San Francisco, and lie off San Francisco three days before daring to cross the bar." At the end of long voyages up the coast these conditions were discouraging, and indeed dangerous. Even the Manila galleon, sailing in the opposite direction, learned to approach the coast with care after the wreck of the *San Agustín* in Drake's Bay on November 30, 1595.

The final obstacle, and indeed the one causing the

greatest suffering, was scurvy, the universal scourge of the seamen's wretched existence. With a fine ignorance of hygiene, commanders of early expeditions loaded up their ships with stores insuring the prevalence of this dread disease. The food consisted principally of "rotten jerked beef, gruel, biscuits, and beans and chickpeas spoiled by weevils." Food of this kind made scurvy the common lot of sailors in the early Spanish days.

When the *San Antonio* arrived in San Diego with the first settlers for California, all on board except two friars were sick or disabled. After a voyage of 110 days the *San Carlos* arrived with a hospital list including every person on board, of whom twenty-four out of the twenty-six members of the crew had died of scurvy. The records of other voyages are not quite so appalling. But the scourge remained to afflict oppressed sailors occasionally even into the nineteenth century.

To overcome these obstacles of distance, head winds, lack of shelter, and disease, the Spaniards had greatly improved tools. They had instruments for measuring the elevation of the sun and stars; they used the mariner's compass; they made excellent maps of the coastal regions; and they built seaworthy ships from improvised dugouts to thousand ton galleons.

The First Spanish Ships

The first vessel made by white men on the California coast was carved out of a redwood log on the shore of Drake's Bay late in 1595. Following the wreck of the *San Agustín* the Portuguese commander Sebastián Rodríguez Cermeño and his sixty-nine men fashioned the open sailboat which they christened the *San Buenaventura* and in which all seventy of them sailed down the coast, making surveys and starving on acorns. They missed San Francisco Bay entirely, leaving that harbor, by a

strange coincidence, to be first entered by another redwood launch. Eighty years later Captain Ayalá supervised the carving of this boat out of a large tree on the Rio Carmelo, and it was this launch which preceded the *San Carlos* in the first passage of the Golden Gate.

The ships of the first expeditions were only a stage or two in advance of these mighty dugouts in either seaworthiness or comfort. The two vessels of the Cabrillo exploration were smaller than any of the modern coasting schooners. "They were poorly built and very badly outfitted. Their anchors and ironwork were carried by men from the Gulf of Mexico to the Pacific; they were manned by conscripts and natives; were badly provisioned, and the crews subject to that deadly scourge of the sea, scurvy." During the winter of 1542-43, the suffering on both vessels was extreme, although the torture may have been slightly less on the flagship than on the consort, which "was a small vessel and had no deck."

More seaworthy was the forty-ton packet which brought the first visitor to the California coast from across the Pacific Ocean. Deserting Father Andrés de Urdaneta, his commander, on their return from the first round trip to the East Indies from New Spain, Arellano forged ahead in his little tender and was the first white man to sight Cape Mendocino. Sailing down the coast he brought his vessel into Navidad two months before Urdaneta's galleon arrived.

In each of the next few years two or three small ships like Arellano's made the round trip from Acapulco to Cebu or Manila, sailing out on the North Pacific current, which the first expedition had been lucky enough to strike, and returning up the Asiatic coast until they could take advantage of the Japan current to help them in their tedious voyage of six or seven months. Probably all of these smaller packets and trading vessels were

built according to the formula of the time for "round" ships: the length was twice the beam. The bows were blunt. A cabin at the stern, and, when size permitted, a forecastle at the bow increased the stubby effect. Two masts supported large square sails which could be set at various angles, but not adjusted sufficiently to make effective tacking possible, especially as jibs had not yet been introduced. Instead of the long and almost horizontal bowsprit of later days, these tubs had a nearly vertical spar on which additional square sails, called sprit sails, were rigged. In many cases, too, even these small packets had a mizzen on the poop, fitted with a lateen sail bent to the long spar, the rakish angle of which always added a touch of the bizarre to the appearance of caravel or galleon.

Galleons

As soon as the Council of the Indies, responding to the pressure of the merchants of Seville, restricted the commerce between New Spain and the East Indies to one ship a year, the demand for cargo space immediately forced an increase in the size of the vessel. Nominally held at first to three hundred tons burden, later to five hundred tons, the Manila galleon, stuffed with "ivory, and apes, and peacocks, sandalwood, cedarwood and sweet white wine," expanded and burgeoned until by 1708 the *Bigonia* was rated at 900 tons and some of its successors even rated full ten hundred tons, with ample space for merchandise and men.

These "huge, round-stemmed, clumsy vessels," in spite of their castle-like appearance, were built on finer lines than the smaller trading ships. The most marked difference was in the proportionate length, the keel of the galleon being three times the beam at the waist. The advantage of comparative slenderness was offset, how-

ever, by the bluffness of the prow, and the resistance to the wind offered by the towering superstructure. The hull itself stood high above the water. On these ships the fo'c'sl was really a forecastle, two decks high, while the poop rose majestically from the deck to the first and second orlop and finally to the upper or poop-deck. Besides the masts and rigging of the larger merchant vessels of the day, the galleon often had a fourth mast or bonaventure mizzen, carrying, like the main mizzen, the triangular lateen sail.

Packets

After the stately Manila galleon and the fierce little ships of the pirates, the vessels which were used in the vastly more important business of colonizing Alta California and supplying the new settlements with essential materials from the Mexican coast seem very insignificant indeed. Not at all impressive were the *San Carlos*, *San Antonio* and *San José* which were assigned by José de Gálvez, visitador-general of New Spain, to transport the party of Don Gaspar de Portolá and Father Junípero Serra to San Diego in 1769. The *San Carlos*, though of 200 tons burden, was none too seaworthy. The passage to La Paz opened up her seams and she had to be careened on the beach and repaired before the expedition could start. The two packet boats were considerably smaller and both had to undergo similar overhauling. One of them, the *San José*, never arrived in Alta California nor returned to La Paz. The loss of ships near Cape San Lucas was too common to be astonishing, but the unknown fate of this little supply ship almost wrecked the new colony at San Diego, which existed under the greatest hardships while awaiting the promised aid.

Contact with the new settlements at San Diego and Monterey was maintained by packets, the faithful *San*

Carlos taking a prominent part in the earlier services of supply and exploration. She brought the first settlers to San Diego, was the first ship in San Francisco Bay, and carried supplies, missionaries, officers of the Crown and explorers up and down the coast. The last service of this staunch old "paquebot" was the long voyage to Manila in 1779, carrying the news of the war between Spain and England. She never returned. In her place another *San Carlos* was dispatched. But the new vessel was not so lucky. Caught in a storm in San Francisco Bay the *San Carlos El Filipino* pulled loose from her multiple moorings at both stem and stern and was wrecked on the rocks near the Presidio. For the first seven years the *San Antonio* also did faithful service, in bringing reinforcements and supplies especially for the missions. By Bancroft these vessels are referred to as "snows," a variation of the late eighteenth century barque. A snow has the usual foremast and mainmast but is distinguised by having the spanker booms attached to a small trysail-mast close abaft the main mast. The addition of the trysail, or spanker, at the stern, and the use of jibs, introduced during the century from the better Dutch and English ships, made these supply ships much more manageable than the round tubs of the previous century.

After 1779, the Spanish and later the Mexican ships, occasionally touching at California ports, were "modern" models, hardly to be distinguished from the ships of other nations now beginning to find their way into the waters of the North Pacific. An occasional Spanish frigate represented the contact maintained by sea between New Spain and California until the coming of the Mexican régime in 1822. After that date, too, there was little change except in the increase of foreign shipping. But picturesque incidents were not lacking.

Patriots or Pirates?

Late in 1817 rumors came to placid Alta California that patriots, or pirates, were loose in Pacific waters. Knowing little and caring less about the great revolutionary fever of the Spanish Americas, the Californians enjoyed a brief panic, and, as the news staled, an occasional reminiscent shudder. And then on November 20, 1818, after only a vague warning by a roving Yankee hide ship, two privateers suddenly appeared at Monterey. The story of the comic opera battle and the progress of the patriots of Buenos Aires and Honolulu under the command of a Frenchman and an American has been told so often from the point of view of the Californians that Peter Corney, captain of the *Santa Rosa*, will here be allowed to give his own account. In the halcyon days of King Kamehameha I, Peter Corney was adventuring on the Hawaiian Islands:

"The ship, *Santa Rosa*, alias *Checka Boca*, alias *Liberty*, had been fitted out at the River Plate, under the command of Captain Turner, and had sailed round Cape Horn, to cruise against the Spaniards in the North and South Pacific." Mutineers captured her, terrorized the coast, and finally sold her to Kamehameha I.

Near the end of September "a large ship called the *Argentina* touched at Owhyhee. She mounted forty-four guns, belonging to the Independents of South America, and was commanded by Don Hypolito Bouchard, a Frenchman. They had taken many prizes, but none of any value; the crew was very sickly, scarcely enough out of 260 to work the ship. Captain Bouchard demanded the ship *Santa Rosa* and crew from Tameameah, which was immediately complied with. He forgave the men on a promise that they would behave better in future, and brought both ships down to Woahoo to refit. On their

arrival, Captain Bouchard came to our houses, where he spent most of his time, often inviting us on board. He took a particular fancy to me, and asked me to command the *Santa Rosa;* to which I agreed, and in October, 1818, entered on my office . . . . We took on board a supply of hogs and vegetables and a number of natives; and on the 20th of October we took our final leave of those friendly natives, bound for the coast of California, to cruise against the Spaniards. The ship *Santa Rosa* was American built, about 300 tons burthen; mounting eighteen guns, twelve and eighteen pounders; with a complement of 100 men, thirty of whom were Sandwich Islanders, the remainder were composed of Americans, Spaniards, Portuguese, Creoles, Negroes, Manila men, Malays, and a few Englishmen. The *Argentina* had 260 men, fifty of whom were Islanders, the remainder a mixed crew, nearly similar to that of the *Santa Rosa*. On our passage towards California we were employed exercising the great guns, and putting the ship in good condition for fighting, frequently reading the articles of war which are very strict, and punish with death almost every act of insubordination.

"After getting a supply of eggs, oil, etc., from the Russians, we made sail towards the bay of Monterey. The Commodore ordered me into the bay, and to anchor in a good position for covering the landing, while he would keep his ship under weigh, and send his boats in to assist me. Being well acquainted with the bay I ran in and came too at midnight, under the fort; the Spaniard hailed me frequently to send a boat on shore, which I declined. Before morning they had the battery manned, and seemed quite busy. I got a spring on the cable, and at daylight opened fire on the fort, which was briskly returned from two batteries. Finding it useless to fire at the batteries, the one being so much above us that our

shot had no visible effect, the Commodore came in with his boats, and we landed on Point Pinos, about three miles to the westward of the fort; and before the Spaniards had time to bring their field-pieces to attack us, we were on our march against it. We halted at the foot of the hill where it stood for a few minutes, beat a charge and rushed up, the Sandwich Islanders in front with pikes. The Spaniards mounted their horses and fled; a Sandwich Islander was the first to haul down their colours. We then turned the guns on the town, where they made a stand, and after firing a few rounds, the Commodore sent me with a party to assault the place, while he kept possession of the fort. As we approached the town, the Spaniards again fled, after discharging their field-pieces, and we entered without opposition. It was well stocked with provisions and goods of every description, which we commenced sending on board the *Argentina*. The Sandwich Islanders, who were quite naked when they landed, were soon dressed in the Spanish fashion, and all the sailors were employed in searching the houses for money, and breaking and ruining everything. We took several Creole prisoners, destroyed all the guns in the fort, etc. We had three of our men killed and three taken; next day a party of horsemen came in sight, to whom the Commodore sent a flag of truce, requiring the governor to give up our people and save the town. Three days were granted to consider the proposal, and on the third day, not receiving an answer, he ordered the town to be fired, after which we took plenty of live stock on board, wood, water, etc., and on the 1st day of December got under weigh from Monterey, and stood along the coast to the southward."

After adventures at Refugio and Santa Barbara, "We again ran into a snug bay, in latitude 33° 33′ N., where

we anchored under the flag of truce. The bay is well sheltered, with a most beautiful town and mission [San Juan Capistrano] about two leagues from the beach. The Commodore sent his boat on shore, to say if they would give us an immediate supply of provisions we would spare their town; to which they replied, that we might land if we pleased, and they would give us an immediate supply of powder and shot. The Commodore was very much incensed at this answer, and assembled all the officers, to know what was best to be done, as the town was too far from the beach to derive any benefit from it. It was, therefore, agreed to land, and give it up to be pillaged and sacked.

"Next morning, before daylight, the Commodore ordered me to land and bring him a sample of the powder and shot, which I accordingly did, with a party of 140 men, well armed, with two field-pieces. On our landing, a party of horsemen came down and fired a few shot at us, and ran towards the town. They made no stand, and we soon occupied the place. After breakfast the people commenced plundering; we found the town well stocked with everything but money and destroyed much wine and spirits, and all the public property; set fire to the king's stores, barracks, and governor's house, and about two o'clock we marched back, though not in the order we went, many of the men being intoxicated, and some were so much so, that we had to lash them on the field-pieces and drag them to the beach, where, about six o'clock, we arrived with the loss of six men. Next morning, we punished about twenty men for getting drunk."

The Guadaloupe

One of Captain Bouchard's men "captured" at Monterey was Joseph Chapman, one-time apprentice to a Boston shipbuilder and harmless jack-of-all-trades.

This good-hearted pirate serves as the link between the capture of Monterey and the building of the first planked ship to be constructed in Alta California.

The launching of this ship, in 1831, was witnessed by Alfred Robinson, who wrote in his *Life in California* (1846):

"She was a schooner of about sixty tons, that had been entirely framed at San Gabriel, and fitted for subsequent completion at San Pedro. Every piece of timber had been hewn and fitted thirty miles from the place, and brought down to the beach upon carts. She was called the *Guadaloupe*, in honor of the patron saint of Mexico; and as the affair was considered quite an important era in the history of the country, many were invited from far and near to witness it. Her builder was a Yankee, named Chapman, who had served his apprenticeship with a Boston boatbuilder. He was one of the crew on board the piratical cruiser that attacked Monterey, at which time he was taken prisoner, and had lived in the country ever since. From his long residence, he had acquired a mongrel language, English, Spanish, and Indian being so intermingled in his speech, that it was difficult to understand him. Although illiterate, his great ingenuity and honest deportment had acquired for him the esteem of the Californians, and a connection in marriage with one of the first families of the country. Padre Sanchez, of San Gabriel, used to say that Chapman could get more work out of the Indians in his unintelligible tongue, than all the mayordomos put together. I was present on one occasion, when he wished to despatch an Indian to the beach, at San Pedro, with his ox-wagon, charging him to return as soon as possible. His directions ran somewhat in this manner: '*Ventura! vamos! trae los bueyes* go down to the *Playa*, and come back as quick as you can *puede*.'"

By all rules of propriety the *Guadaloupe* should have been preserved as the symbol of the happy association of Franciscan and pirate, Indian and American, in the common enterprise of getting sea-otter hides from the Islands and promoting the trade especially of the harbor of San Pedro. Unluckily, the little schooner was wrecked after only a few years of service, and like the romance of Spanish and Mexican days in California is now only a memory.

Chapter XIII

CHAPTER XIII

Shoes and Ships and Sealing Wax

WHEN THE Walrus said the time had come to talk of many things

"Of shoes and ships and sealing wax
And cabbages and kings" . . .

he was evidently thinking of the miscellaneous and picturesque incidents accompanying the development of English and American trade on the California coast in the sleepy but colorful days before the gold rush. Indeed, the addition of a few such items as furs, blubber, and a god would make his list an ideal table of contents for this chapter in the veracious chronicle of ships and California. Since the Walrus was a whimsical fellow, however, the order of his items will have to be rearranged, to correspond with the vicissitudes of exploration and trade during the seventy-five years before the adventurers of the world stampeded into San Francisco Bay.

The story begins with a divinity who had great influence on the future of California, although he was never seen or worshipped there. Lono, god of peace and plenty, after having withdrawn himself for many years from the sunny archipelago of the northern Polynesian people with a parting promise that he would some day return on a floating island furnished with all that man could

desire, reappeared on the Island of Kauai on January 20, 1778, in the person of Captain James Cook. The natives prostrated themselves before him and conducted him to the sacred enclosure, where he found the remnants of a human sacrifice and the decaying flesh of a pig. About a year later, while resisting his attempt to seize a hostage, the natives rushed his party back toward the ship, and discovering that he did not have superhuman strength, hit him on the head with a club and stabbed him in the back. To this unfortunate deity in his historical character as practical navigator and man of science, California owes a debt of gratitude for three notable achievements.

Cabbages

"Cabbages! Bright green cabbages!" (in the words of Thackeray) were a large factor in the first of these achievements. On his second voyage to the Pacific in 1772-3, Captain Cook provided for his sailors a new menu:

"Each ship had two years and a half provisions on board, of all species. We had besides, many extra articles, such as Malt, Sour Krout, Salted Cabbage, Portable Broth, Saloup, Mustard, Marmalade of Carrots, and Inspissated Juice of Wort and Beer."

These anti-scorbutic foods were distributed under observation and used for the prevention of scurvy rather than as a cure. For sailors used to hardtack and salt horse, a ration served out one week of twenty pounds of onions for each man was too much! A marine and a sailor rebelled and were sentenced to twelve lashes apiece for refusing such health-giving diet.

The plagues of insects and certain kinds of contagious diseases which made life so miserable on the Manila galleons were also kept down to a minimum by Captain Cook's primitive method of fumigation or "smoking" the men's quarters in the ship. Cleanliness, too, was

insisted upon; cleanliness not only of the ship but of the crew, whose personal habits had never before been so carefully supervised.

The result of this first serious attack on scurvy and ship fevers was reported by Captain Cook in his famous paper, "An account of the method taken to preserve the health of his Majesty's ship *Resolution* during her late voyage around the world," and in the story of the voyage itself. Sailing for a thousand days over an unknown sea-path 60,000 miles long, the expedition lost only one man out of 118 and entirely escaped the ravages of scurvy. The great plague of the sea was conquered, and reasonable comfort and health on the long voyages to California assured.

Having on his first two voyages examined the south Pacific and conquered scurvy, Capt. Cook returned on a third expedition to investigate the northern regions of the Pacific Ocean. It was during this adventure that he made his other contributions to California history. The sesquicentennial of his discovery of the Sandwich Islands, celebrated at Honolulu in August, 1928, recalled in detail the more popularly known of these achievements. Of the many important results of this discovery not the least was the stimulation of trade with California through the establishment on the Island of Oahu of a port which has served both as a rival and as a feeder for San Francisco. In the early days, while the coast ports were officially closed, Honolulu served as the Pacific base for many of the British and New England ships. The whalers made it their regular rendezvous. The fur traders stopped there to pick up the sandalwood which soon became so valuable in the China trade that by 1835 hardly a live shrub of this species was left in any available part of the islands. At Honolulu captains recruited islanders to fill out their crews, depleted by deaths and desertions. The brown-

skinned Polynesians thus became familiar characters at all the ports and watering places from San Diego to Nootka Sound. From Honolulu, smugglers, using fast brigs, brought over Boston goods which were distributed from headquarters on Santa Catalina Island. From the Californias, in turn, ships brought to the Sandwich Islands the first cattle and horses and later many products for trade or local use.

The third contribution of Captain Cook's expeditions to California history, a piece of utterly unexpected good fortune, first turned the attention of English and American merchant adventurers to the Pacific Coast as a source of valuable cargoes. When searching the northern shores for the ever-receding Northwest Passage, Captain Cook and his men traded trinkets for the marvelous black silky fur of the sea otter, which in those days darkened the rocks and beaches of all the islands in sight of California, besides frequenting the kelp beds and the coast itself. At the time no one had any conception of the value of these pelts. After following the Alaskan coast into the Arctic Sea, the *Resolution* and her sister ship returned to the Sandwich Islands where in a skirmish with the natives Captain Cook was killed. Under the command of his successor, Captain Clerke, the voyage was resumed. While the ships were at Macao, Captain James King, author of the official report, visited Macao.

"During our absence," he wrote, "a brisk trade had been carrying on with the Chinese, for the sea-otter skins, which had, every day, been rising in their value. One of our seamen sold his stock, alone, for eight hundred dollars; and a few prime skins which were clean, and had been well preserved, were sold for one hundred and twenty each. The whole amount of the value, in specie and goods, that was got for the furs, in both ships, I am confident did not fall short of two thousand pounds sterling; and

it was generally supposed, that at least two thirds of the quantity we had originally got from the Americans, were spoiled and worn out, or had been given away, and otherwise disposed of, in Kamschatka. When, in addition to these facts, it is remembered, that the furs were, at first, collected without our having any idea of their real value; that the greatest part had been worn by the Indians, from whom we purchased them; that they were afterward preserved with little care, and frequently used for bed clothes, and other purposes, during our cruise to the North; and that, probably, we had never got the full value for them in China, the advantage that might be derived from a voyage to that part of the American coast, undertaken with commercial views, appears to me of a degree of importance sufficient to call for the attention of the public."

Ships

During the period of this long voyage and before the attention of the public was caught by Captain King's report, one of the monarchs, referred to by the Walrus, was popularly blamed for the War of Independence which kept the colonial fleet busy in Atlantic waters and made extended voyages around the Horn an impossibility. But in spite of the war and in spite of the Navigation Acts, decreed in the name of his majesty, King George III, which had been one of the chief causes of the struggle—indeed partly on account of these handicaps—American shipbuilders were developing a type of ship and a skill in handling their improved vessels, which would soon have direct effect on voyages to the Pacific. The schooner rigging first used by Captain Andrew Robinson of Gloucester, in 1713, had been widely accepted for all the smaller colonial vessels. In combination with square topsails or applied only to the mizzen mast, this type of fore-

and-aft rigging gave the American privateers a flexibility and efficiency in sailing in light airs or close to the wind which accounted for their phenomenal successes early in the war. After the struggle was over and the British blockade lifted, the merchant marine, which the new nation inherited from the colonies, sprang into activity.

The first American ship in the Pacific was *The Empress of China*, Captain Lemuel Shaw. At Canton Captain Shaw picked up a pretty cargo of tea and silk and proved that trade with China would be profitable, if the Americans could find valuable goods to exchange for the oriental products. The report of this adventure and of Captain Cook's voyages combined to motivate the epoch-making voyage of the *Columbia*. Sailing from Boston, September 30, 1787, with her consort, the sloop *Lady Washington*, this ship of 212 tons burden reached Nootka Sound too late for the fur trading season, and was forced to leave her tender and to hasten on her voyage to Canton and back to Boston, the first vessel to carry the American flag around the world.

While little profit had been made on the first voyage to Canton, and none on the venture of the *Columbia*, the way was now open, the routes indicated and the cargoes available. A series of ships soon sailed from Boston, rounded the Horn, traded chisels, beads, and trinkets for the furs of the northwest coast, crossed to Canton where otter skins brought from $20 to $60 apiece, and returned to the Hub of the Universe with a fortune in porcelain, tea, and silk.

Although the first center of the fur trade was the future Oregon territory, it was inevitable that the fur seals and sea otters should be followed down the coast. Ships would lie in the lee of Farallones or Santa Catalina while their crews raided the beaches, clubbing the inoffensive seals and shooting the more suspicious otters. While the

seal skins brought only about $1.50 apiece, the butchery was so wholesale that good profits could be made. The otter furs came with more difficulty, but brought far greater rewards.

While hunting these fur-bearing animals the ship *Otter*, Captain Ebenezer Dorr, was the first vessel to carry the American flag to anchor in a California port. She was armed with six guns and carried a crew of twenty-six men. In spite of the prohibition of all foreign shipping, the Spanish authorities accepted Captain Dorr's passport signed by General Washington and viséd by the Spanish consul at Charleston. With their permission Captain Dorr obtained wood and water, but in spite of their prohibition and much to their disgust, he forcibly landed eleven convicts who had stowed away on the *Otter* in the progress of their escape from Botany Bay. By 1801 there were sixteen American ships in the fur trade, fourteen of them Boston built and owned.

In 1804, Captain Joseph O'Cain initiated a new type of hunting. By a profit-sharing arrangement with Baránof, the Russian commander, he brought down from Sitka a hundred and fifty Aleut Indians to raid the coast of both Californias. Putting out from the *Joseph O'Cain*, they paddled their parkas around the rocks and through the kelp beds, and potted the sleek otters before they could dive or when they came up to breathe. A few years later dead-shot hunters of various nationalities used shallow pointed boats in the same way and carried on the slaughter. It was a cruel, wasteful business, for if an otter were not instantly killed it would disappear under the water to die out of sight of its enemies; and, of those killed on the surface, many, of course, were not recovered.

Foreign ships were now a familiar sight off the headlands and along the beaches of California. A French exploring expedition in the *Astrolabe* and *Boussole* under the

command of Jean François Galoup de la Pérouse had disturbed the quiet of Monterey in 1787. Vancouver in his British ships the *Discovery* and the *Chatham* visited the coast and investigated San Francisco Bay in 1792 and 1794. In the *Juno* Rezánof came to San Francisco in 1806 for supplies and reconnaissance. Sealers and fur traders collected their wares and carried on an increasing amount of barter with the missions and ranchos of this isolated region until the War of 1812 again bottled up the American merchant marine on the east coast.

Kings

Officially and in the name of the King of Spain the entire California coast was closed to all except authorized government packets. But ships had come and traded, and after the war returned in greater numbers. A certain amount of trouble was thus inevitable. Excuses and subterfuges had to be used whenever a ship approached Monterey or San Diego. Battles of wits and campaigns of words took place, and even more serious troubles arose. In 1803, the *Lelia Byrd*, Captain Cleveland, escaped from San Diego after a bloodless battle.

The *Mercury*, Capt. Ayres, was confiscated in 1813, the *Pedlar* seized in 1814, the *Lydia* in 1816, and in the same year the *Albatross* had to sail for Honolulu in haste, leaving Capt. Smith in durance vile. Capt. Sumner of the *Waverly* had a similar experience. In Capt. Alexander Adams' journal, kept when in the brig *Forrester*, occurs the following passage under date of Dec. 20, 1815: "Anchored in San Luis Bay near Pt. Conception (California). Saw several Spaniards on shore driving some cattle toward us. As we had previously engaged some we sent the boat, and to our great chagrin found it was merely a decoy, as directly the boat landed twelve soldiers rode towards them, and had they not been very active in launching

the boat, they would all have been taken prisoners; but fortunately they got safe aboard."

The fierce competition on the Atlantic forced the ship yards of New England, New York and Baltimore to adapt to ever larger models the fine lines and efficient rigging of the wonderful little coasting fleet. By the time the War of 1812 had ended, all the types of vessels which became so familiar in the heyday of the sailing ship, except the miraculous clippers, had been developed, their speed had been greatly accelerated, and their seaworthiness under the handling of their experienced young captains was marvelous.

Shoes

As soon as the war was over New England ships sailed around the Horn again to resume the interrupted fur trade. By the end of the Spanish rule in 1822, however, the supply was already becoming depleted. The California harbors, under the Mexican régime, were now open for trade, subject only to import duties of approximately 100% payable at Monterey, the single port of entry. Every kind of manufactured article from axes to earrings and from shoes to sealing wax was in demand at the scattered pueblos and ranchos of this rural province. Only some valuable articles to barter were necessary to develop a leisurely but considerable trade. In the intervening fifty years since the Anza expedition the small, long-legged and long-horned cattle had multiplied until they grazed in vast herds over the wide dipping valleys and all the rolling hills of the coast ranges. Here was an obvious source of hides for the New England shoe manufacturers and of tallow for the soap and candles of the silver miners on the west coast of South America. Bryant and Sturgis, fur and hide traders of Boston, were the first to develop this new exchange into a profitable business,

when they sent the *Sachem* to the coast in 1822 to barter Boston goods for the stiff, ill-smelling "California bank notes." Thereafter, for the next twenty-five years, ships were busy collecting hides for New England shoes, which in turn, along with notions of all kinds, they took back to barter for more hides.

Most notable of the "hide-droghers" was the *Alert*, made famous by Richard Henry Dana in his immortal *Two Years Before the Mast*. But since his story is so well known, it may be of interest to take the voyage in the *Admittance* with the youthful William H. Thomes, who saw the same sights and enjoyed the same experiences a few years later, and who reported them in his lively story, *On Land and Sea*.

"There were several reasons why I visited California in 1843, and remained on the coast for nearly three years, engaged in the laborious and not very agreeable work of hide-droghing, a branch of industry that belonged almost exclusively to two Boston firms—Messrs. Appleton & Hooper, and Bryant & Sturgis. It was a lucrative trade, and the above-named gentlemen worked it for all that it was worth for many years, or until after the annexation of California, and the discovery of gold on one of the forks of the American River, near the fortifications of Captain Sutter, the latter about a mile from what is now known as Sacramento City.

"The first reason that I had for going to sea was because I wanted to look at the world, and especially California, as I had read Mr. Dana's *Two Years Before the Mast*, and, boy-like, wanted to encounter the dangers that he had met with. I desired to see the same ports that he had visited, to get wet in the same surf, to gaze at the same pretty Mexican ladies, the same indolent Mexican caballeros, the same shiftless Indians, and the same skillful horse-riding rancheros.

"On the 27th day of October, 1842, we unmoored from Lewis Wharf [New York], and dropped anchor in the stream, to receive powder on board, of which we took large quantities. It was all stowed in casks in the run, out of the way of fire and lights, and about eleven o'clock A. M. the balance of our crew were parbuckled on board, some drunk, as a matter of course, and then the windlass was manned, sail made, and out of the harbor we steered, and one o'clock P. M. we discharged our pilot, and were off for California."

The *Admittance* bowled along into the trades, spoke the *Edward Everett*, later to be the first ship to sail with a gold mining company from the east coast to El Dorado, rounded the Horn and sailed up the west coast, while Thomes and "Lewey"—his titled French pal—learned the ropes and discovered just how far they could carry their practical jokes. Although Thomes intimates that traders left their consciences at Cape Horn, Captain Peterson did not use the usual methods of cheating the customs house. Frequently a large part of the ship's consignment would be transferred to another ship or cached on an island until after the inspection, payment of duties (with or without bribery) and the receipt of the permit to trade. But the *Admittance* sailed directly into the port of Monterey, took on board the Spanish officials (who did not even have a small boat of their own) and that evening served as a stage for a farce which, for the benefit of the Walrus, might be entitled "Sealing Wax."

Sealing Wax

"As soon as the collation was finished the custom-house officers put seals on the hatches and bulk-heads, shook hands, and threw their arms around the captain, and squeezed him, but he didn't look as though he liked it. One fellow, the man with a handkerchief around his

waist instead of a sash, made a motion to kiss the old man, but that was more than he could endure, so he drew back and evaded the chaste salute, and it was just as well that he did, for this very Mexican was left on board to watch us, and to see that we did no smuggling in the course of the night. But we might have unloaded the ship for all that the keeper knew, as he got hold of a bottle of sherry wine, and that finished him for a while, so he coiled up on the deck, in the steerage, and went to sleep, and did not awaken until seven bells on Sunday morning.

"We pulled the custom-house officials on shore, and by the time they were landed it was sundown. The *Dale* [American sloop-of-war] fired a musket from her quarter-deck, hauled down her flags, and a fife and drum played the 'Star-Spangled Banner.' We got our suppers, hoisted up the boat, and then an anchor watch was set. I found that I had to be on deck from ten to twelve, and, as I was tired, turned in, and slept until I was awakened by the doleful cries of Fred the Dutchman. He had come down in the steerage to call me, but blundered, in the dark, against a bulk-head, where there were official seals, and had broken off every one in his desperate attempts to open a door which he should not have touched, or gone near. He was half asleep, and did not stop to think.

"'Officer, officer,' he said, 'I break de seals. Vot shall I do? Mine Gott, dey all smash, and I did not dink dey vas dere. Officer, tell me vot shall I do?'

"We roused up, struck a glim, and then the genius of Lewey came to the front. He told Fred to hold his tongue, flashed the light in the Mexican officer's face, saw that he was in a deep sleep, and not shamming, gathered up the pieces of sealing-wax, heated them by the flame of the lamp, and stuck them on the door so that no one would have suspected they had been removed,


Franz Geritz

or tampered with, and no one did know the truth, much to the joy of Fred, who imagined that he had committed some kind of crime that would be the means of sentencing him to hard labor in a chain-gang for life."

The crew now settled down to their routine of taking on hides, gorging on fresh beef, taking a forbidden swig at Cook's pulperia, and enjoying an occasional fandango with the black-eyed, bare-legged California lasses. At Captain Richardson's place at Sausalito they took on water. In the marshes near San José they could almost knock down sackfuls of ducks, which literally covered the water. While they were anchored near Yerba Buena Captain Sutter came down from his fort in a flat boat manned by ten uniformed Indians and delivered 200 hides and many beaver and otter skins, all of which were loaded into the *Admittance* by "kanakas." At Santa Cruz they took on redwood lumber for San Pedro. The picture of the chief southern ports in those lazy Mexican days may well be given in the words of the high-spirited young sailor:

"Santa Barbara, in 1843, was a sleepy, pleasant little town, situated about half a mile from a white, hard, sandy beach, which extended from Buenaventura south, to Point Arenas at the north, where the surf was ever raging and moaning. After a southeaster it was dangerous to land there, even if a boat dared venture through the breakers. With a northerly or west wind the harbor was quite well protected. In the wet season ships were compelled to come to anchor outside the kelp, and with springs on their cables, so that the chains could be slipped at a moment's warning, if a blow was threatened from the southeast. Then vessels would stand over toward Santa Rosa Island, get under its lee, and lie there until the gale abated. All the time we were on the coast, however, we were in luck in this respect, for we never

had to make sail to escape a gale, but we always anchored in the winter with everything ready to run if necessary, furling our sails with reefs in them, and spun-yarn for gaskets, so that they could be cut in a moment's time.

"After we had exhausted Santa Barbara of hides and tallow, we got under way on the 29th of June, and, with a strong northeast breeze, ran past Point Buenaventura, and, with yards nearly square, sailed along the high coast for San Pedro, where we arrived on the 30th, and dropped anchor in three and one half fathoms of water.

"This port was the worst place we had seen on the coast. It was almost an open roadstead, and only one adobe house on the land, occupied by a Captain Foster, and his wife, a Mexican lady, and the sister of Don Pio Pico. The captain was an Englishman, and did not seem to have much to do except order horses and bullocks for the masters of such ships as anchored at the port.

"The next day we got out our lumber, made a raft, towed it on shore, and then had to carry it up the high bluff, and place it on the table-land, all ready for the Indians and bullock carts. It was terribly hard work, and the men swore in a loud tone, and the officers in a subdued manner; but it had to be done, as the agent had no mercy on us, if money was to be made for some one.

"As the carts came from town, loaded with hides and tallow, we were required to carry everything to the boat, down the hill, and over the sharp stones. As the tallow bags weighed some two hundred pounds each, the task was not an easy one. Here we also received ten iron flasks of quicksilver, and several pounds of gold dust, although where the latter came from no one knew, but it was reported that the merchants of the Pueblo Los Angeles traded for it with the Indians, and the latter would not reveal the source from whence it came."

The *Admittance* now arrives at San Diego and the account proceeds:

"There were half a dozen hide houses on the beach, and all were occupied, and in full operation. Two or three dozen sailors, white men and kanakas, sat in front of their quarters, and watched us as we furled sails, and commented on our appearance, for we had been expected for several weeks, and all were anxious to see the crack ship of the coast, as the *Admittance* was known to be fast, and well taken care of by the captain and officers, and when we were at anchor the vessel was as trim and neat as a sloop-of-war.

"As soon as the ship was moored, and the sails furled, tackles were got up on the fore and main yards, the launch was hoisted out, and preparations made for hard labor the next day. After supper the captain was set on shore, and we saw some of the men who were engaged in curing hides. They said that they liked their occupation, and preferred it to knocking about on the coast, pulling and hauling ropes, and carrying goods to the shore. The place smelled like a slaughter-house, and the vats, where the hides were soaking in brine, were enough to turn the stomach of a well man, but the people did not mind it, as they had become accustomed to the odor, and grew fat on the strength of it, for the more they stirred the skins, the better their appetites. The air was so pure that disease, except small-pox, was unknown in the place."

After returning ten or a dozen times to pick up hides at all the principal points in California the *Admittance* loaded up with 36,000 hides, 40 tons of horns "used for dunnage for the cargo," 10 casks of beaver and otter skins, several iron flasks of quicksilver and a few pounds of gold dust, and sailed away, back to Boston, in 1845, leaving young Thomes and "Lewey" to seek further adventures in the dusty country which was soon to be a land of gold.

Whales

Coincident with the coming of the "hide-droghers," the whalers from Nantucket and New Bedford began to frequent the California coast. In 1791 seven American whalers for the first time rounded the Horn to hunt leviathan in the South Pacific. By 1819-20 they appeared off Japan and soon made Honolulu their rendezvous and the California coast one of their minor hunting grounds and major bases of supply. They might be expected to appear anywhere, but dropped anchor most often in San Francisco Bay, where they took on water at Capt. Richardson's Ranch at Sausalito and carried on trade for supplies with the rancheros of the region as well as with the villagers of Yerba Buena. They were allowed to barter $400 worth of goods free of duty; and probably, as occasion offered, all of these ships exceeded the prescribed limit. That this trade was not too insignificant to mention is verified by William Heath Davis, who reported from thirty to forty whalers in the bay in each of the years 1843-44-45.

Although their chief hunting grounds were off Japan, in the mid North Pacific, near Kamchatka and finally in the Arctic Sea, the whalers were not averse to harpooning any whales which might be found spouting leisurely down the coast.

The cry, "Thar she blows!" was often heard, and the battles between flukes and harpoons were frequently seen from the very sites of the present shore whaling-stations.

It was a picturesque, dangerous, and highly odorous adventure, to the story of which "finis" has been written several times, but only to provide the usual fascinating sequel.

Chapter XIV

CHAPTER XIV

By Sea to El Dorado

SOMETIME DURING the month of December, A. D., 1848, strange and almost incredible tidings began to reach New England of discoveries of vast gold deposits in Upper California, and in the immediate vicinity of the Sacramento River, and about 140 miles above the city of San Francisco. These reports were at first received with considerable distrust; many of the 'knowing ones' thinking that they were put in circulation by the government, or by interested persons, to promote emigration to and a consequent speedy settlement of, that new United States' territorial acquisition. However, the stories, instead of dying away, kept daily increasing in extent; and it was not long before the most confirmed skeptics were forced to admit that 'there must be something in it' for certain official reports, and statements from private sources of the most unquestioned veracity, proved clearly the existence of a Gold Region in California whose wealth or extent no man could clearly estimate. The newspapers all over the U. S. seized greedily upon every new light that gleamed from that distant and boundless horizon, and of course ridiculous and improbable exaggerations were often published and

believed in by the 'green uns.' But, after all, enough of certainty remained to stir up such a fever throughout our great country as has never before existed on a similar subject. Many companies were formed in all the principal cities of the Union for the purpose of mining, or mining and trading, in the new 'El Dorado.' These were generally joint stock companies, who purchased each a vessel of some kind & fitted her out to make the passage round Cape Horn. One of the first ships which sailed from Boston was the *Edward Everett*, 650 tons, Capt. Smith, taking out the New England Mining and Trading Company, which consisted of 150 members . . ."

This is the beginning of a "Journal of a gold-hunting expedition to Upper California commenced in the month of February, A. D., 1849, kept by George F. Kent." Sometime before May 1, 1852, this journal was "found by G. D. Colburn of Boston in a cabin occupied by him and owned by Mr. Boulton, Geologist, at Randolph Flat near Rough and Ready, California." The diary with its vivid narrative of a voyage around the Horn, its story of the struggle to reach the diggings, its tale of hardship and the death of friends, and its ominous blank pages gives an impression of immediacy which spans the years since the gold rush. With George F. Kent and a dozen other 'Forty-niners whose journals are now preserved in the Henry E. Huntington Library at San Marino, California, we can in imagination feel the thrill of that great adventure, and, in our dreams, join a California company and ship aboard one of the 775 vessels which cleared from Atlantic ports for San Francisco in the golden year of 1849.

"On the 25th of this month [Christmas evening, continues Mr. Kent] a few would-be adventurers assembled in the counting-room of Holden & Blanchard, 83 Hanover St., Boston, for the purpose of forming a small band to

seek the new country. . . . Our Association—the papers of which were drawn up in the form of a partnership concern—took the name of the Shawmut & California Company, and consisted of 16 members, owning equal joint stock shares, who in the month of January, 1849, purchased the packet brig 'Rodolph' 123 tons, 4½ yrs. old, for $3,500. We had her coppered, and rigged with an entire new suit of sails—then refitted for the accommodation of our Company and 18 passengers. We stored her with provisions for a six months' voyage, and for use after our arrival—also with various mining utensils &c. Besides this we took out a good supply of consigned goods & freight. An arrangement was entered into with Capt. Hartwell Walker of Stratham, N. H., to the effect that he should take command of the vessel for the voyage and become a member of our company upon our arrival at San Francisco."

After various delays the *Rodolph* sailed out of the Port of Boston to begin her long passage to the Golden Gate. On the very next day the ship *Duxbury* weighed anchor, shook out her sails and sped out of the same port, carrying among others, William H. De Costa, printer, and, for the occasion, keeper of two journals. Other diarists were already at sea on the bark *Elvira* clearing from Boston, January 1; the brig *Charlotte*, Newburyport, January 23; and the *Robert Bowne*, New York, February 6; while Lewis Sanger and his son left Boston on the ship *California Packet* of Cutler, Me., March 4. In their daily jottings and the published journals of several other Cape Horn Argonauts the composite picture of the long voyage to the promised land takes on vivid reality.

A month before these vessels cleared, the rush by sea had commenced. The *John W. Coffin* sailed from Boston, December 7, followed by a few other ships which had hastily gathered passengers and freight. The *Edward*

Everett, first ship carrying a California cooperative company, sailed from the same port January 13. By this time vessels were fitting in every port, and every day one or more cleared for San Francisco loaded to capacity with mining equipment, miscellaneous stores, and eager passengers.

For the first week after the midwinter embarkation of these early Argonauts, storms and seasickness seem to have been their common lot. Tin trunks, crates, rolls of baggage, which crowded decks, saloon and cabins, broke loose and hurtled across careening decks, jeopardizing the legs of the few passengers still capable of motion, even smashing a certain demijohn of whiskey and other breakables. The sea cooks, many of them shore negroes or white adventurers unworthy of their honorable marine title, were at first as sick as their incapacitated patrons.

The *Charlotte* shipped a heavy sea; the comber stove in the cook's galley, washed the breakfast into the scuppers, and the company "liked to lost our cook." A wave swept a passenger over the careening bulwarks of the *Duxbury*, but before the alarm could be spread another wave washed him back again.

Diversions

With the passing of the storm spirits revived. The sailors shifted and condensed the cargo; the passengers packed away their luggage; the routine of life at sea was established; and every fact about ship, company, and weather assumed an importance which set everyone talking or writing.

"Friday 16th [wrote De Costa in February]: Everyone on board is trying to amuse himself in some way or other, but that which is most popular and which seems to be everyone's chief ambition is 'Keeping a Journal.' . . .

Not wishing to be an unconspicuous [sic] character among them, I delve at it with the rest and *this* will undoubtedly be a great book of reference."

The day's run, the weather, food, ships sighted, and personal gossip typically occupied attention in about this order, as the diarist filled in the pages dated in advance for the whole voyage. Trade winds soon came to bring good cheer and break down reticences. Friendships were formed. On board the *Duxbury* the Rev. Mr. Brierly, official chaplain and eloquent leader, conducted religious services at seven-thirty every morning, preached every Sunday, and organized the "Washington Lyceum" which met every Tuesday and Friday evening. The company on board the ship *Lenore* was not so serious-minded:

"We have all sorts of amusements aboard which make the time pass quickly," states a member of the company in a letter quoted by Dr. O. T. Howe. "We have formed a company of Sacramento Minstrels, banjo, tambourine, and fiddle and we sing all the popular songs. We have a dance nearly every night until eight bells, when all noise is forbidden; then we have fun below, songs, stories and games. We have no trouble on board and doubt whether there is another company of a hundred men as happy as we."

But there were other diversions, especially in less happy companies:

"Tuesday 27th [February, on board the *Duxbury*]: The wind in these parts seems to blow particularly easy which, of course, adds to the standing quality of grumbling, and all, after eating salt mackerel, beef and potatoes, are usually amused with sociable little frays like the following: The cook hits the steward a rap on the head, then the third mate taps the cook on the nose, and is himself collared by the first mate; then the third mate swears pro-

digiously, when the mob rushing forward with projecting eyes to see the sport, are informed that the 'din of battle's past.' The offensive cook has left the galley .... The Lyceum has again met and we have got our rations of sugar."

When the ship crossed the equator everybody was happy. Sometimes Neptune appeared over the gunwale to initiate the innocent, sometimes the passengers had an orgy of blackening each other's faces, lathering with brooms and shaving with any instrument of torture at hand; but often the day passed without the rough sport which might not be properly enjoyed by most of the members of the cooperative company controlling the destinies of the voyage. Other diversions thus became imperative, as we learn from William De Costa:

"Thursday 29th [March] . . . At noon it being calm and someone challenging me to jump overboard I did so, the shark-fearers enjoying for me a genuine shudder, but the water feeling extremely nice I did not think it worth while to return the compliment. This broke the ice, for there had been much talk about it for some days yet none had gathered the courage for the first plunge, and in a few seconds there were 25 or 30 in the water. We were in the water about fifteen minutes and in this time each had done his best to astonish his neighbor. . . .

"At night the Duxbury Sea Fencibles met for the first time for drill. This company varies in number from 50 to 10 and was got up to pass away time. Lieut. Frank is drill officer, and the way we 'ground arms' and march round the Poop-deck is rushing. My first 'order arms' was upon the toe of a barefooted ranger at my side. I'll bet it drove the idea from his head of being raised to commander-in-chief of the California Legion."

As a rival to the lyceums, newspapers now appeared,

full of rather dilute poetry, the daily humors of the voyage, scratchy pictures of the ship's notables, and programs of coming celebrations. On the *California Packet*, the masthead of the carefully written newspaper displayed the banner, *The Pearl of the Ocean*. On the *Duxbury* the *Petrel* was the official gazette, until a rival was started with the suggestive title, the *Shark*. Aboard the *Edward Everett*, William H. Thomes, now returning to the scenes of his experiences before the mast, was one of the editors of the *Barometer*. In the *Petrel* the most interesting story is an account of the adventures of "Frank," who came aboard in a grocery box marked, "Medicine," to avoid complications with officers of the law and a possible suit for breach of promise. Unfortunately the sign, "this side up with care," was disregarded, and Frank had to stand on his head for some time before the ship cast off and friends were free to unpack the "medicine."

On April first, sea water disguised with floating bits of lemon peel served for lemonade, pirates appeared mysteriously to frighten simpletons, and every gullible person was the butt of practical jokes.

But these innocent diversions were not sufficient to break the monotony of the voyage. Captains who were not at once efficient in navigation and congenial to the members of the company began to be criticised. Captain Walker of the *Rodolph* was too fond of the bottle and Captain Varina of the *Duxbury* was too harsh and stingy. On ships with unpalatable supplies or impossible cooks there were general debates about the advisability of stopping at a Brazilian port. Aboard the *Duxbury* the food was scant and the water from old oil casks execrable. The passengers seethed with indignation and repressed energy:

"Thursday 5th [April] . . . . Prayer meeting at night,

and at the same time the mob are dancing cotillions and contra dances on the forecastle; and below they are playing brag for five-cent pieces. A meeting was held today to take into consideration the practicability of going overland from the port into which we may go—Rio Janeiro or St. Catherines—to Valparaiso on the Pacific. About thirty wish to go, to each of whom the Captain will give $10 and provisions."

Well-managed ships bowling along under royals and skysails kept their course for the Straits, but the *Duxbury* and not a few others put into the beautiful harbor of Rio de Janeiro.

As the ship neared the land, the spirits of the Argonauts revived. Dress parade was in order:

"Thursday 12th [April] . . . Today the Duxbury Sea Fencibles were on drill again. They were notified by Lieut. Frank to appear in blue overalls, red shirts and glazed caps, with one charge of powder in pocket. We are a comical set of fellows, short and long, shaved and unshaved, ragged and whole, poor and lean, fat and plump, beside many other peculiarities."

While the *Duxbury* sailed in between "Hood's Nose" and the "Sugar Loaf," passed the castle of Santa Cruz, rounded to and anchored amidst a score of California ships in front of the city of Rio de Janeiro, the passengers crowded against the rail, feasting their eyes on the panorama and impatiently awaiting the customs examination before they were allowed to jump into the little boats and revel in the luxury of tropical fruits, light wines, exotic foods and sightseeing. Elaborate are the descriptions in all the diaries of this port of refuge, but like the gold-mad Argonauts, the reader must rush on.

Again the sailors, not all dead drunk this time, manned the capstan and weighed the anchor to the immortal chantey:

I thought I heard the old man say,
Whiskey for my Johnny.
We are bound away this day,
Whiskey, Johnny.

"Thursday 26th [April]. This morning," wrote De Costa, "we find that eight of the passengers have left us, three sailors and the third mate. At eight o'clock we were under weigh and after getting the password to get by the forts we ran down the harbor with a fair wind—leaving four more of the passengers ashore who were not on board in season—and in company with the frigate *Savannah*, ship *Charlotte* and barque *Edward Fletcher* stood to sea, all bound for California. Spoke a Baltimore brig at the mouth of the harbor and requested her to report us. As we were passing down we cheered about twenty California ships who were lying at anchor in the harbor. In the afternoon we passed by the *Fletcher*, her band at the time playing, 'Love not,' and 'Sweet home.'"

The north star had long ago sunk below the horizon and even the dipper, after "being used as it should be," had disappeared. Magellan clouds hung on the horizon. The sea was white with Portuguese men-of-war.

"The full moon makes our evenings on deck very pleasant," wrote Albert Lyman aboard the schooner *General Morgan*. "This evening we had 'Dearest Mae,' 'Mary Blane,' and 'Oh, Susanna' sung again in full chorus. There was something peculiarly interesting in hearing these old familiar airs sung in this distant region, within sight of the savage and inhospitable coast of Patagonia. They carried my thoughts back to my native land, where I had so often heard them. Indeed they are truly national airs, and whenever the stars and stripes are seen to float, there those airs are certain to be heard. Rio harbor rang with them while we were there."

And this is the version sung aboard the *Duxbury*:

CALIFORNIA

Tune—"Dearest Maye"

Come Yankee boys and listen,
A story I'll relate;
'Twill happen in the valley of
The California state—
'Tis down in the bottom lands
We fellows go so bold,
And work away like tigers,
When we think about the gold!

Oh! the gold they say
'Tis brighter than the day,
And when we got it,
Oh! won't we go it,
And drive dull cares away.

On the banks of the river,
We'll stoop and bend so low;
The flakes we'll find above the ground,
And the lumps we'll find below.
Oh! there is the spot,
Where sometimes we are told,
That when the tide is very low
Is found great heaps of gold.

Oh! the gold they say, &c.

Beneath the hot and scorching sun,
We'll work for many a day,
Quite happy that we're getting rich,
And soon are going away.
We'll have a great big heap of gold,
From which the sands we've parted;
We'll get some boards and box it up,
And off for home get started.

Oh! the gold they say, &c.

The sky now began to darken. On a cold blast from the south came Cape pigeons and the great albatross.


Franz Geritz

Cape Horn

"At 4 a. m. [wrote Lewis Sanger, on board the *California Packet*] the cry of all hands on deck was vociferated by the sailing master, and answered by his mates and mariners, at the same time giving off orders to furl Top Gallant Sails, take in the flying jib, stand by the halyards, man the Buntlines and Clue lines, and all manner of orders that few of us knew what they meant, save the certainty that a storm was nigh at hand."

It was the warning of Cape Horn.

"The storys told by the mariners generally of the Roughness of the Sea and violence of the winds in the Region we are now in, has stricken terror through the generality of the minds of our down Easters, who look as they say it 'darndly scared.'"

And then came the storm:

"The scene was truly wild and fearful," wrote Albert Lyman. "The lightning flashed in an almost perpetual glare, leaving short and fitful intervals of pitchy darkness, the sea foaming and apparently commingling with the clouds in wild confusion, and the rain at times pouring in torrents. Toward morning, a 'corpo santo' or 'fire ball' was seen on the main truck. This is a strange light, resembling fire, which is sometimes seen attached to the spars or rigging of vessels at sea, in bad weather, and its appearance is generally regarded by seamen as a bad omen. The cause of it I cannot explain or understand. It was quite brilliant when first seen, appearing like a bright lantern hung up there, but after a few minutes it grew fainter by degrees, appearing only at intervals, and at length disappearing altogether."

The storm that struck the *Duxbury* whipped off the flying jib and carried away the jib boom. Other ships struggled fiercely with the elements, a few losing a sail

or smashing a spar. Some were blown far off their course, and one was helpless until the first fair weather found her only 800 miles from South Africa, from which point she had to return to Rio for a new start around the Horn.

But in spite of the treacherous weather, good luck protected the adventurers in large ship or little schooner, as, under close-reefed topsails, they took the long way around, attempted the middle passage through the Straits of LeMaire, or slowly worked their way through the long and difficult, but nearest, Straits of Magellan. The passage of the latter took from ten days to six weeks, and often a half dozen ships at a time would be in sight of each other, alternately tacking and lying to in any bay or cove which presented shelter from the fierce and fickle winds.

Up the West Coast

At the Cape or in the Straits, according to tradition, conscience was abandoned. Although no one records the actual casting away of that prized commodity, which for so many years had been one of the chief exports of New England, the effects of the custom are frequently of record, as on the *California Packet*, for instance:

"Sunday, June 9, 1850. Our ministers, for some Reason, or other (probably carelessness), have neglected preaching, or even reading a prayer on a sabbath for a long time. Religion is in fact getting in a low state here even among the professors and ministers, and were it not for the well meaning of the majority on board, as regards the rights and wrongs of this world, I fear morality, modesty and many social virtues would leave us, and soar to more welcomed society."

Guarded only by a very elementary sense of decency the Argonauts now sailed up the coast of Chile, hailing

with the enthusiasm of relief and anticipation the port of Talcahuano or of Valparaiso farther up the coast. Again we cannot delay to describe the diversions of the passengers, sporting, like boys out of school, in the environs of the ports under the calm snow-capped peaks of the towering Andes. They galloped about on horses, or poked along on sleepy donkeys, investigated the creaking carretas, ogled the girls, invited themselves to fandangos, attended cock-fights and bull-fights, watched plays, the dialogue of which they could not understand, sampled the wares of pulperias, got into fights—or carefully avoided them, according to their several temperaments —and accordingly visited the American Consul as defendants in wordy actions or as law-abiding countrymen.

During ten days at Talcahuano, John Hovey on the brig *Charlotte* reported the following vessels: the whaleships *Canton* and *Franklin* from New Bedford; the ships *Florence* and *Albany* and the bark *Eliza* from New York; the *Trescott* from Mystic; the brigs *Almena*, *Newcastle*, and *Mary Wilder*, and barque *Oxford*, from Boston; and the *Osceola* from Philadelphia.

The delay was made as short as possible, and after a week of taking on fresh stores and water, the ships were on their way again.

"Thursday 17," wrote John Hovey on board the brig *Charlotte*, in May. "This morning the harbour appeared to be alive. Vessels getting under weigh leaving for Call. pass cheering one another from ship to ship, music playing hail Columbia and Yankee Doodle and singing suesanah as they are heveing up ther anchor. We weighed our anchor and got under weigh and sailed out of the bay of Conception with a southerly breese in company with seven others bound for Call. the light wind continues throu the day and we hope the next time our anchor goes down it will be in Call. We have a good

supply of fresh provisions and being refreshed ourselves we shall have a good time."

Meanwhile a few of the company vessels had chosen to call at Alexander Selkirk's lonely island, where a Waterville, Maine, Yankee was turning a pretty penny by helping ships take on water. Seven vessels had recently stopped here and three of them were at anchor, when the passengers, reveling in shore-leave and a fish dinner, celebrated the Battle of Bunker Hill! The festivities were duly recorded in the *Petrel*:

"The 17th of June. This day, forever memorable as the anniversary of the Battle of Bunker Hill, was duly celebrated on the Island of Juan Fernandez by the crowd of Massachusetts boys present, assisted by the passengers of the barque *Kirkland* from Baltimore. [The *Robert Bowne* was the third vessel.] The Stars and Stripes floated at sunrise above the old fort, a volley of musketry was fired, and three times three cheers were given in honor of that glorious achievement. The flag was afterward carried in procession down to the landing when it was again greeted with a salvo of musketry and cheering."

The California fleet, now on the home stretch, picked up the southern trade winds, crowded on all possible canvas, and sped for the Golden Gate. Skysails, spencers, and stunsails were stretched taut; moonsails and water-sails were rigged to catch every pound of wind power. On the schooner *General Morgan*, "this morning, we got up a new sail, called a 'flybinite,' not probably found in the nautical dictionary. It is a triangular sail, set over a square-sail, the tack hauling out to the square-sail weather yard-arm. We have now nine sails on the little craft."

Northward sped the vessels. The faster sailers, racing up the sailing lane, now began to move to the head of the procession. Although still far from their journey's end, the passengers began feverishly to prepare their equip-

ment for the gold fields. Out of spare canvas they cut and sewed additional tents. They cut tent pegs and fitted folding tent poles. A rope and line factory was in full operation. They polished metal work and oiled up their arsenal of guns and pistols, taking occasional pot shots at the birds and fish.

In the intervals of these occupations the observant diarists recorded the teeming life of the tropic seas. Bonita and albacore cut through the water. Off one of the islands a turtle "six and a half feet by four" was captured. When the *Charlotte* ran into a school of "skip jacks," the company suddenly became fishermen and were lucky enough to catch one weighing "12-15 pounds." Sharks were numerous. But the most impressive sight was always a school of whales, and several schools of a hundred or more were reported. As a climax to the excitement of seeing the ocean aspray with spouts, Albert Lyman was "gratified with the rare sight of a battle royal between a whale and a thrasher."

By the time the fleet of the first Forty-niners was straining toward the finish, six months had passed, and the glorious Fourth of July was at hand. Elaborate programs were prepared. Endless poems were composed for the occasion. A banquet followed by countless speeches and toasts was the chief feature of the celebration. On board the *Rodolph* the program provided for thirteen toasts beginning with "the Day we celebrate and the President," and closing with "Fair Women"; but, cheered by many a bottle, the toasters and the toasts continued until nearly every one had had his say. The rest of the night was passed in dancing to the tune of a squeaky fiddle and in singing:

Oh! California,
That's the land for me!
I'm off for California,
With my washbowl on my knee.

A Brush at Puerto Seguro

For a few ships, however, there were to be more delays. The passage through tropic waters played havoc with uncoppered hulls and slow sailing caused other ships to stop again for wood, water, and fresh supplies. The *Rodolph* put into Puerto Seguro, near Cape San Lucas, to fill water casks and to paint her hull. There the schooner *Olympia*, Captain Austin, a gold hunter bound from Chile to San Francisco, was also at anchor, having been slowed up by Panama barnacles and borers. The atmosphere of this old pirate rendezvous was still strong enough to be contagious. While Captain Austin and some of the crew of the *Olympia* were ashore here, two passengers cut the cable and attempted to run off with the vessel, regardless of the fact that the Captain's son was on board. Suspecting foul play, Captain Snow, of the *Rodolph* (who had succeeded the bibulous Captain Walker), hastily sent a boat for the men on shore. When they returned, a party of six, armed to the teeth, put out to capture the becalmed pirates:

"The men lay on their oars a few rods distant from the schooner and Capt. Austin hailed her demanding where they were going. No answer was returned until the second hail, when Hicks replied that they were taking her back to Chile. He then ordered them to heave to and lower their sails, which order they did not see fit to comply with. After waiting a few minutes he gave the order to fire upon the schooner. It was a clear moonlight evening and objects were distinctly visible. The man at the wheel fell, receiving the contents of two guns, as it afterwards appeared. Hicks was struck just over the eye by a ball which glanced off doing no serious injury, but it bled profusely, and he ran down the companion-way calling out that he was a dead man. The others

cried for quarter, and the boat pulled alongside and boarded her. Capt. Austin attempted to seize the old Englishman, but he bit his hand, whereupon the captain struck him some smart blows with the flat of his cutlass which lamed him somewhat . . . [a boat's crew soon towed the *Olympia* back]. Some of our men watched with the wounded men through the night, and Mr. Hayden exerted his medical skill for their relief. The Chilian was the only man seriously wounded, but he looks badly. He received a musket ball in his right thigh and a small rifle bullet in his left, besides having his body all covered with shot.

"July 31st. This morning Mr. Hayden took 130 shot out of the Chilian's body."

After this adventure the *Rodolph* put to sea again and limped in slowly far back in the procession, which was now parading through the Golden Gate. As the vessels made their way in past the Presidio, near which some of them had to anchor before rounding Telegraph Hill with the benefit of wind and tide, the diarists checked up on their logs.

Journey's End

The ship *Lenore*, among those mentioned in this chapter, made the best passage, bringing the New England and California Mining and Trading Association from Boston, whence she sailed February 1, to San Francisco in 149 days. "July 6th. We came to anchor here [San Francisco] yesterday at 9 A. M.," wrote Charles Plummer on board the *Lenore*, "and here we find a large fleet of vessels, from all parts of the world, while no American vessel has beat us except the Philadelphia clipper ships *Grey Eagle* and *Grey Hound*. The *Edward Everett* has not arrived yet, nor any other vessel which sailed from Boston in January except the brig *Josephine* & the bark

Maria, and *Anonyma*, and these last we have beat in sailing time. Our log shows a sailing distance of 17,586 miles, and is said to be a very short passage, and yet we have had but very few free winds. Such a victory over such a fleet is glory enough for us, without any *gold* . . . ."

The brig *Charlotte*, arriving July 23, 180 days, after a voyage of 20,409 miles from Newburyport, Mass., made a fair record. The *Elvira* and the *California Packet* each cut the time a few days under six months. But the *Rodolph*, held back by her slow sailing and the affair at Cape San Lucas, did not anchor until September 16, after 216 days of monotonous sailing and equally monotonous delay.

Wind and tide being favorable, ships pausing near the Presidio hauled up their anchors for the last time and sailed in past Alcatraz Island, white with guano and aflutter with pelicans, cormorants, and gulls, into the haven of their golden dreams:

"At 10 A. M.," De Costa wrote with conflicting emotions, "passed the fort, came in sight of the shipping, and poking our jib-boom through the forest of masts we came to anchor in front of the town at 12 m. We are at the end of our journey, are in the promised land.—
Well, what of it?"

Chapter XV

CHAPTER XV

Adventures on Land and Sea

BEFORE THE head of the procession of ships bearing gold hunters around the Horn reached Rio, the stampede by other routes to California had begun. All available ships at the Sandwich Islands, Canton, Sydney and the Pacific ports of North and South America were drafted to bring the first wave of international migration into San Francisco Bay. The exodus of Haoles (whites) and Hawaiians almost depopulated Honolulu; Chinese appeared like flies; roughs and pioneers from the Antipodes, and companies of Mexicans and Chileños flooded the little settlement of San Francisco. Ships of every kind and description attracted from Pacific ports lay at anchor opposite the mouth of Mission Creek, deserted by their passengers, crews, and even officers, all of whom had rushed away to the mines or found temporary lodgings in Happy Valley and other camping grounds of the crowded city. Vessels were on their way from all the leading ports of Europe with a polyglot assortment of adventurers from every nation.

Although there was no telegraph or radio to broadcast the excitement of the gold regions, interest on the Atlantic coast was kept at fever heat by the publication

of letters announcing the first discoveries, pamphlets describing in glowing terms the opportunities in California, news stories of the formation of cooperative companies, and advertisements of every kind of needed or useless articles for the adventure. A typical pamphlet, dated 1848, states:

"The recent reports concerning the discovery of immense regions where gold—bright, glittering gold, the first, last and only friend of man in these slippery, selfish days—can be gathered in handfuls and brought away in bags and baskets, with no more machinery and labor than shovel work and a tin pan—must add immense force and activity to the already rapid emigration . . . Of one thing every person who reads these pages may be certain—THERE IS PLENTY OF GOLD IN CALIFORNIA, and to be had, too, merely for the digging. A plough, a yoke of oxen, and a ready will, with a reasonable knowledge of the discoveries in agricultural chemistry, are sufficient to ensure any young or middle-aged man who goes to California, a golden and peaceful competency for his old age, and a handsome legacy for his children."

To adventurers, excited by such a prospect of gold from mines or agriculture, the long voyage around the Horn seemed too slow. For their benefit Providence had established a new steamship line over the much shorter route from New York to Chagres and Panama to San Francisco. But the Devil himself must have presided over the land journey between those two ports.

The story of the Pacific Mail Steamship Company goes back to 1847 when Congress authorized a subsidy of $200,000 for a semi-monthly mail service from New York to Panama, and later in the year approved a monthly service between Panama and Astoria. The subsidy for the Pacific side was awarded to a speculator who sold his

rights to William H. Aspinwall, a man of sufficient imagination to foresee the ultimate development of the west coast and the consequent need for transportation. Under his leadership the Pacific Mail Steamship Company was organized in April, 1848, to supply the west coast service, while the United States Mail Steamship Company undertook the Atlantic line. Three out of five projected steamships for the eastern service were immediately built, and late in 1848 the three Pacific ships were completed. The *California*, 1,050 tons burden, constructed to carry mail, freight and seventy-five passengers, put off almost unnoticed from New York on October 6. By the time the *Oregon* cleared late in December the excitement had begun and the accommodations for passengers were all booked. In January, the *Panama* cleared for her long maiden voyage with twice the number of passengers she was originally designed to carry. Leading the procession of these small wooden side-wheel steamers, the *California* churned her way in serene unconsciousness around the Horn. At Callao, Peruvian adventurers clamored for passage to California and the cabins were filled with gold seekers at $50 apiece, a good bargain in the judgment of the captain. With staterooms comfortably full, the first steam vessel to round the Horn on her own power paddled up the west coast to Panama, where she expected to pick up the first consignment of mail and a passenger or two.

Meanwhile, during her leisurely progress, the gold rush had started. The advance guard of the Panama emigration came aboard the *Falcon*. When she cast off from the pier in New York, December 1, 1848, the gold strike was a mere rumor, but when she stopped at New Orleans for the newly appointed commander of the United States troops in California, General Persifer F. Smith and his staff, sleek gamblers and rough fron-

tiersmen rushed aboard. Full to the scuppers, the *Falcon* pounded on to make an easy connection with the *California*. The other ships of the Atlantic division followed as quickly as possible with ever increasing hordes of gold seekers. For days before each sailing the ticket offices in New York were swamped by eager would-be Argonauts. The steamship agents recklessly sold through tickets to as many people as the ships of the eastern line could carry, trusting to luck to provide accommodations from Panama to San Francisco. At the same time numerous sailing vessels cleared for the Isthmus of Darien with companies and passengers picked up in scattered ports from Maine to Texas. By the end of January, 1849, about fourteen hundred California pilgrims had been put ashore at the hospitable port of Chagres in New Granada.

These early adventurers paddled and tramped across the isthmus to swell the band waiting for the *California*. At length, on January 30, the first steamer arrived and anchored a couple of miles out, as was necessary at the convenient port of Panama. Immediately the mob broke loose, requisitioned every boat and bungo along the beach and stormed the ship, where they found their staterooms comfortably occupied by Peruvians. There was a riot of profanity and expostulation, during which Captain Marshall was nearly pulled to pieces. When the *California* finally weighed anchor four hundred Argonauts had possession of the sleeping quarters and the Peruvians were perched upon the hurricane deck.

The Panama Crossing

While the *California* was completing the voyage up the west coast, the stream of adventurers crossing the isthmus continued and thereafter increased for several years. Typical of their experiences is the account of

Henry Sturdivant, a sensitive, if unlettered and far from wealthy citizen of Cumberland, Maine. Even when deprived of the erratic spelling of the original manuscript now preserved in the Henry E. Huntington Library, the journal written in 1850-51 retains a vividness which warrants a few quotations:

"New York, 13th [December]. This afternoon we leave this city in steamer *Cherokee* for Chagres.

"14th. We are now many miles from the place of our embarking on one of the best steam vessels afloat. Yesterday at three o'clock we left pier four North River in company with the *Crescent City* and *Ohio*, two large steamers employed in transporting passengers to Chagres. The former is to race with us the distance twenty-three hundred miles for twenty thousand dollars a side—so says rumor. Hundreds have assembled to witness the starting of these ocean monsters, and say good-bye to their friends . . . .

"In passing down the bay we saw the *Isthmus* and *Sarah Sands*, two steam vessels bound around Cape Horn to carry passengers from Panama to San Francisco.

"Dec. 21st. This morning arrived at Chagres after a passage of eight days and a half. It was one of the smoothest and shortest trips ever made on salt water. . . . We were landed from the ship by a small steamer. Chagres is a settlement at the mouth of a river of the same name, rising among the mountains half way to the Pacific. It is inhabited by a race of beings, who seem to be a compound of Spanish, African, and of the native Indians. They live in huts made by driving four poles into the ground and covering the roof with grass. The town numbers some two or three hundred of miserable dwellings. They have an odd taste in the selection of their building lots, choosing the low marshes of the river, which are so unhealthy that no one can live there but

themselves, while a few rods from the water the land rises and forms into high bluffs. On one of these is an old fort which was built by a people who had more sense than those who now live here. This as well as the surrounding cliffs is covered by long vines and green foliage, which gives the place quite a romantic appearance."

In the days of the gold rush there was no connection between the appearance of romance and the reality of sanitation. Piles of refuse at the door of each hut attracted insects, vermin, and even vultures, while mosquitoes emanating from the marshes made "Chagres fever" the almost inevitable fate of all who had to spend the night at the mouth of the river. The Argonauts, consequently, swarmed around the lazy, half-naked boatmen, bidding against each other for passage on a "bungo," and demanding an immediate start. Passage for the three-day trip ranged from $15 up, according to the cupidity of the boatmen and the anxiety of the passengers.

"Henry Payson, a gentleman from New York, and myself engaged a log canoe, propelled by three natives, to take us to Golgona, distance some fifty miles. It was late in the evening before we could get them to start. This night we stopped nine miles from Chagres at a little settlement of a dozen huts, where a number of our passengers had congregated. After stumbling around in the dark for some time and getting too tired to stand any longer, we crawled up into the top of a hut and lay down on some poles in the most filthy place I had ever thought of lying down to sleep. It was inhabited by an old nigger, who lay in the shape of a hoop, too far into sleep to know that he had company. I now became conscious that I was taking my first view of the *Elephant;* and after rolling over a few times to see which side of me would fit these poles best, I came to the conclusion that one or the other was very uneven, or at any rate it was a very un-

comfortable fit. But sleep soon relieved me of discussing the merits of my sleeping apartment, of my first night on the Isthmus of Darien. Early on the following morning we proceeded on our journey; it was Sunday, and many times that day would I have been glad to have sat in some cushioned church instead of that little ticklish boat, whose sides were within two or three inches of the water, and a very trifling move would rock her side under. We had to sit almost in one position the whole distance. Having just left a land of snow and ice, the climate appeared warmer than I had anticipated; and the sun, which was nearly overhead, scorched my poor pate, which at best could never bear much sun, until it crashed and snapped to the tune of as much as I can live through in one day and get well during night. Sometimes, we were relieved from the heat of the sun for a few moments by a shower of rain, which seemed to be unctuous [sic] that we had to sit right under it with scarcely any protection, our hats being of palm leaf.

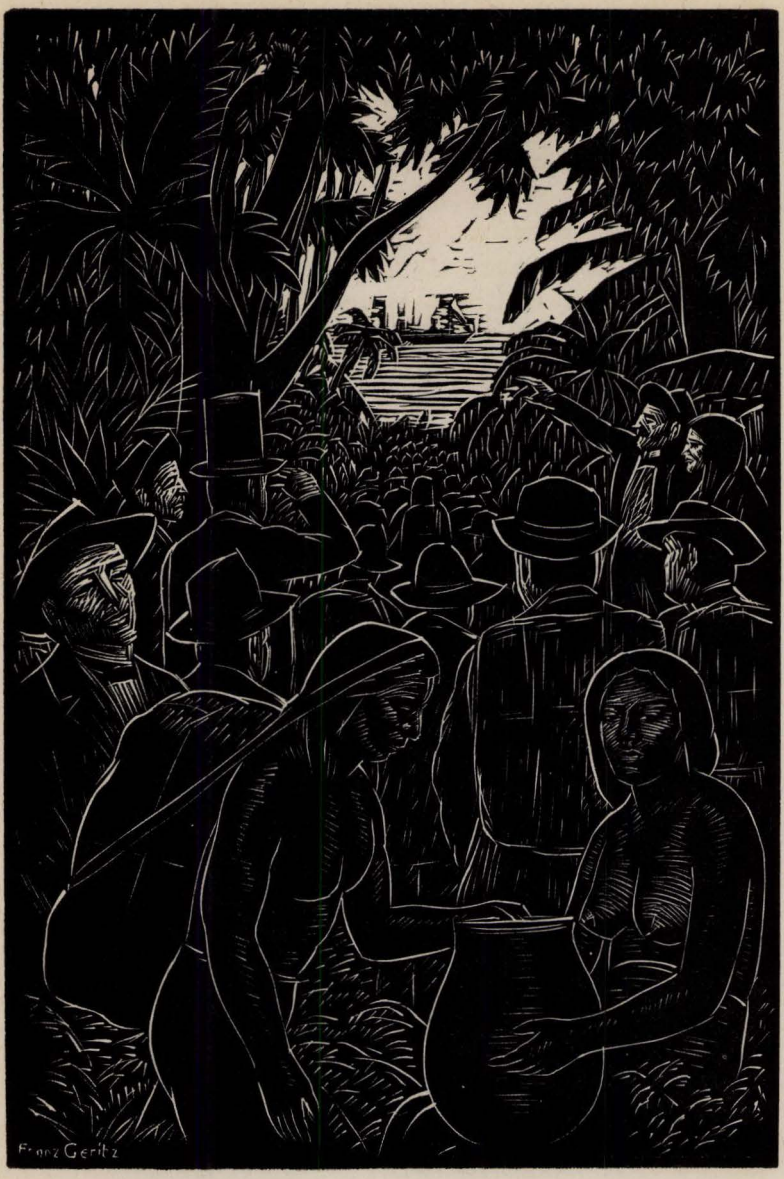
"This night I was not so fortunate in my sleeping room as the one previous; it rained some, and the ground was wet. There were two or three huts here, but every inch of the ground that had anything like a covering over it was occupied by those who had arrived before us. So, after looking under every tree which I thought might have dry ground under them and finding none, I went down to the boat with H. Payson and lay down on the trunks, which were a little higher than the boat. There we bunked, knowing that if we moved more than six inches we should go overboard; not a very pleasing idea to have in one's head when he is completely fatigued and about going to sleep, I assure you . . . . The fog on the river had become so thick and cold that any more sleep in this place was at an end. We walked around every hut to see if anyone had left his place to go out. I had not

long before a man left his bed, which consisted of a piece of rawhide; before he had got a foot from it a fellow—whose length was the same as mine—occupied his place; whether he intended to come back again or not I could not say; all I know is that rawhide makes a very good bed for a tired person.

"23rd.—This day arrived at Golgona, which is a village of fifty or sixty huts; one board building occupied by some Americans, who kept a place of entertainment for those bound to California; for before the gold discovery very few ever traveled this path. They have a church here, or a place they call by that name, though to me it looked like anything but a church. Christmas being at hand, none of the natives can be employed to start for Panama until that time has passed, so we must content ourselves some way or other and wait their motion."

While the majority of the gold hunters ended their journey by river at Gorgona, a few prodded their boatmen into the exertion necessary to pole the bungos six or seven miles farther to the ultimate head of navigation at Cruces. At either place only the most primitive accommodations were available. At Gorgona the one board building occupied by Americans was the leading hotel. Bunks filled one end of the shack and tables for diners the other. In this or a similar caravanserai, the bunks were constructed like shelves, six stories high. Even with the utmost overcrowding, the successive boatloads of immigrants could not possibly find places in these improvised inns. Cruces was more of a city than Gorgona, boasting a stone church, some adobe huts, and temporary hotels in which only six people at a time were crowded into each of the small rooms.

At these small villages the bargaining for transportation began all over again, mud- and mountain-going mules and Indian pack-carriers taking the place of the


Franz Geritz

bungos. After all the passengers had been well held up, the pack-train would start up the ancient trail, once paved by order of the early Spanish governors, but now a gutter of mud between rocks or a shelf at the top of a precipice. About the only relief offered the motley caravan was at the "Half-way House," a miserable little tent about twelve feet square. After being jolted to almost paralytic unconsciousness on the mules, alternately burned by the tropic sun and soaked by the tropic showers, and liberally bespotted by the mosquitoes and other nameless visitors of the previous three nights, the Argonauts hailed Panama with delight.

"27th. This evening came into Panama, having seen the trouble of crossing the Isthmus, that has been the theme of many a letter that has found its way to the States, full of something just the opposite of truth. After staying at Golgona two days, during which time I had ample opportunity of learning how niggers kept Christmas, of which I had often heard allusions, I, too, became quite familiar with the whole routine of a Fandango, having been present at many. The music for these dances is a piece of hollow log with the skin of some animal drawn over one end; it sits on the ground and they drum on it with sticks, while the dancers sing and tread round it like chickens with a dough dish. The road to the city is a very rough one; the only mode of transportation is on the backs of animals. The distance is about twenty-four miles . . . . This city at this time is unhealthy, and strangers stopping here any length of time are quite sure to be sick. A fever called the Panama fever is the principal disease."

"Panama fever," "Chagres fever," yellow fever, and cholera took their toll. Sixty passengers of one ship were buried here and forty from another. But the passengers who escaped these diseases made the best of their inevita-

ble delay at the old Pacific port. They explored the fortifications and ruins of the old city, destroyed two centuries previously by Henry Morgan and his buccaneers; they hunted in forests festooned with vines, resplendent with flowers and brilliant cockatoos, and echoing with the chatter of monkeys; and they patronized all the games of chance, cock-fights and fandangos, which seemed to be the chief industries of the natives.

When the *Oregon* arrived a month after the *California*, the stampede was repeated. The *Panama*, too, was nearly swamped by the mob which had been lying in wait and making life miserable for the helpless local agent of the Pacific Mail. The Pacific had already lost most of its ships to the abandoned idleness of San Francisco Bay; only a few apathetic coasting vessels remained. Anything that could float and had any prospect of reaching California was requisitioned, loaded to the gunwales, and started on the passage to the north and west which had so taxed the patience of the first Spanish expeditions.

Later in the spring of 1849, the *Humboldt*, ship of 500 tons, being used as a storeship for coal, jumped her bond of $10,000 and started north with four hundred passengers who had each engaged a six-foot cube of bad air in the hold at $200 apiece. As if this company were not enough, the French agent had shipped eighty extras. These interlopers were thrown out, but had the good luck to find a place on board the English brig, the *Corbière*, which arrived in the nick of time. It took the *Humboldt* three weeks to beat its way out of the Bay of Panama, and by the time it reached Acapulco life aboard was intolerable for at least twenty of the passengers, who gave up their places to as many gold seekers stranded there after a journey across Mexico.

While such scenes were being enacted along the Central American Coast, the *California* was completing the first

voyage by steam to San Francisco. Commodore Thomas ap Catesby Jones had prepared a royal welcome. On February 28, 1849, the *California* churned her way through the Golden Gate, steamed by the Presidio, and, to the shouts of masses of spectators clustered on Telegraph Hill and gathered in dense crowds at the principal landings, paddled in past the line of the five American ships of war. Every rag of bunting had been run up, and the yards were lined with sailors. As she passed each ship a broadside in her honor boomed from the opposite battery and cheers rang from the rigging. Then she nosed through the abandoned ships and came to anchor not far from Clark's Point. And for the next four and a half months she stayed at anchor, guarded only by a certain Foggin, third engineer. Her entire crew had deserted to the mines.

When the *Oregon* finally put into the harbor on April first, however, Captain R. H. Pearson, warned of the lure of the mines, anchored next the battleship *Ohio*, had all his crew arrested, and put them in irons until he could be certain that they would return with him to Panama for another load. The *Panama*, arriving several weeks later, was also able to get away to maintain the promised coastal service.

During the year 1849, according to the record kept by Edward S. King, harbor master of San Francisco, 15,597 passengers arrived by ship around the Horn and 6,489 by the Panama route. While these were pouring in 9,217 more, picked up in Pacific ports, found their way in through the Golden Gate. Of the latter a large number were eastern Americans who imagined that shorter and easier ways to California could be found across Nicaragua or Mexico.

Across Nicaragua

Early in February, 1849, a certain George Gordon conceived the plan of furnishing quick service to San Fran-

cisco by the Nicaraguan Lakes. For the small fee of $260 he furnished stateroom passage "in the *Mary*, Captain Hayes, from New York to San Juan De Nicaragua, from thence per Steam Boat *Plutus* to GRANADA, on Lake Nicaragua; or, navigation permitting, to Managua, Matiares or Nagarote on Lake León, as may be most convenient for landing; and a passage from Realejo, on the Pacific, to San Francisco, with Hammock, Bed, and Bedding for the voyage and Camp accommodations during detention on land, *en route*." The only hint of imperfection in the plan was contained in the following proviso: "The Line provides an agent to charter vessels at Panama, Acapulco, and other Pacific Ports, so as to avoid detention at Realejo. In the *unexpected* event of Vessels not being procured, $75 of the passage money and 60 days' provisions will be refunded to each passenger at Realejo, which will procure passage in the Mail Steamers which will touch there."

A company of young graduates fresh from Yale chose this attractive route and sailed from New York among 136 passengers on "a fine little brig." But the program was not followed out as announced. After three weeks at San Juan del Norte it was plain that the *Plutus*, brought out in parts for the river service, was worthless. Bungos were now hired and took the company in leisurely stages up the river and across the lake to Granada, which they reached on April 13th. While amusing themselves here for the next five weeks the happy-go-lucky young adventurers became the toast of the picturesque little town on beautiful Lake Nicaragua. On May 21st, with genuine regret, the boys mounted their mules and rode on to León, singing an original version of "Oh! Susannah"—

Me voy a California
A tierra muy lejana . . . .

After weeks more in Managua, Mateares, León and Chinandega, during which time they watched with amused interest the bubbling of the perennial revolutions and acted as bodyguard for General Muñoz, the sons of Eli Yale finally shipped aboard the brigantine *Laura Ann* and left the port of Realejo on the 20th of July. On this vessel of 100 tons, accommodations for the company of 120 were not sumptuous, and the food was the standard ration for starved sailors in the days of Viscaíno. Water leaked out of the tank. Worms and cockroaches infested the bread. The beans were as hard as buckshot. After three weeks of discomfort and two weeks with a ration of a pint of half-softened rice and a pint of water a day, the boys were ready to have the *Laura Ann* put in to the shore of Baja California. There the supercargo with all the charter money, the mate (a retired pirate, wrecker and murderer) and all but two of the crew deserted and were never seen again. But luck was with the boys, for they found water and secured provisions from a Peruvian brig which was also on her way north with supplies for the mines. That part of the original passenger list which stayed by the *Laura Ann* finally reached San Francisco Bay about the third of October. Others of the party were not so fortunate. In a little sloop, becalmed for thirty-two days in one spot, several others finally made the trip from Realejo in 144 days, the passengers having suffered the greatest hardships and existed for twenty-two days on a daily ration of three mussels and a few drops of water distilled through a gun barrel. A number of the original company which landed at San Juan never arrived at all.

The Mexican Route

Similar experiences awaited the gold hunters who elected the route over the Isthmus of Tehuantepec or

across Mexico. One of a party of twenty-five on board the brig *Empire* from New York, H. O. Comstock arrived at Vera Cruz, March 12. The sleepy, flea-infested port was alive with American gold hunters. A party of 147 had started from this place for Mazatlan a few days previous. A company of forty-six had just arrived from New York in the bark *Claremont*, and immediately after seventeen came in the *Rutland* and thirteen in the *Burlington*, making 238 Argonauts at Vera Cruz alone within a period of about a week.

Mules and horses, worth less than nothing and originally bringing perhaps $5, now sold for $25 to $30, and all other necessities for the trip were priced accordingly. The trip to Mexico City and down to San Blas was slow and uncomfortable, but not difficult or dangerous for people who treated the Mexicans with ordinary civility. The real troubles began with the passage out of the port. On April 29 young Comstock sailed from San Blas on board the Chilian schooner *Jackin* (probably *Juaquin*), Capt. Norman, master. In this little vessel of 104 tons burden, already loaded with lumber, the adventurers paid $100 for a steerage passage to San Francisco. At night they crawled into the hold to sleep on the lumber, which was piled to within two and a half feet of the deck. They were delayed by head winds. After twenty-five days they were put on an allowance of a pint of water a day, with only the luxury of a little molasses to sweeten their metallic beans and rice and hardtack full of weevils. Strangely enough they thrived on this diet, and arrived early in June toughened by their experience on land and sea, and ready to make a million dollars in the diggings on American River or Mokelumne Creek.

A final picture of gold seekers finishing their journey to the promised land with the aid of vessels on the

Pacific Ocean may be taken from the journal of Henry Sturdivant:

"21st [January, 1850]. This morning arrived at San Francisco, having a passage of twenty-one days from Panama, making the whole time since leaving New York but thirty-eight days, the distance being six thousand miles. On our way to this port we touched at Acapulco, San Blas, Mazatlan, San Diego and Monterey. At San Diego we took on board sixty or seventy persons, some of whom had left the State of New York more than a year before and taken the overland route to the gold country. Many were without money, and some were covered with rags and the skins of wild animals. Provisions at this time being very dear and scarce here, and having nothing to purchase with, many were suffering from hunger. Some provisions had been given them from the government stores. As we came to anchor within a few hundred yards of the shore, these wretched people jumped into everything in the shape of a boat lying on the beach and crowded around the ship. The side ladders were hoisted up to prevent them from coming on board. As they lay alongside, soliciting a passage to San Francisco, the Captain knowing he had as many passengers as he could accommodate, knew not what answer to make them. They looked very little like people who had ever mingled amid the comforts of a home in the metropolis of the United States; suffering and disappointment had placed on them their signet; and I thought should the great picture of human misery, produced by the discovery of gold in California, ever be exhibited at home, this little group might hold a prominent place in it without diminishing its wretchedness. Other forms than those of men composed this company; women were here, for they, too, had caught the spirit for gold hunting which had started their husbands on their long journey,

and were now sharing their misfortunes. Who that ever heard of suffering and women have no part in it? Captain Bailey did not wish to leave them in this condition, and having obtained consent of the passengers to take them on board, the ladder was lowered and they needed no other invitation, for in a very short time they had all found their way on deck and the ship was traveling for the offing."

The End of the Rainbow

Overloaded with this addition to her company of passengers, the *Panama*, paddle-wheels deep in the water, staggered up the coast to San Francisco, the haven longed for by all the Argonauts of '49. By the end of that year, 549 sailing ships had come to anchor in the bay, 233 from eastern American ports and the rest from foreign shores. Most of these rocked idly at anchor, stripped of portable equipment and deserted by crews, passengers, and often even by representatives of the cooperative companies who had purchased them for the race to California and then found it impossible to sell or operate them.

"During the winter," wrote Captain George Coffin, "we had frequent gales of wind and storms from southeast, which had a reach of twenty-five miles down San José Bay, which on a flood-tide raised a very heavy sea, and caused much damage, by ships driving from their moorings and coming in contact with other ships. During one of these gales of unusual violence and duration, the ship *Canada* of Nantucket drove down foul of the *Alhambra* and I was obliged to lash her alongside, and there we lay side by side, pitching bowsprit to the water for two days and one night. The night was pitch dark and it rained as it knows how to rain nowhere else but in California and on the flood-tide an English ship came

driving up against the force of the tempest, and brought up across our sterns, her starboard bow under my larboard quarter, and her starboard quarter against the stern of the *Canada*. Her bows and quarter were both stove in, and in a short time longer she would have gone to the bottom, but the tide turned, and she drifted off, and having no moorings she brought up athwart the bows of the ship *Zylon*; the *Z.* rose with a high sharp sea, and came down upon John Bull amidships, and the second time she mounted her, crushed her, and down she went in ten fathoms."

The forest of masts opposite the muddy water front south of Clark's Point was, at first glance, an inspiring sight; on further consideration, a melancholy spectacle. Many an old tub refurbished, provided with flimsy cabins and improvised bunks, and freshly painted for the gala trip, came to her last anchorage in this "port of abandoned ships." Many a fine new vessel, especially the large square-rigged ships, met the same fate. But necessity and the ingenuity of such captains and supercargoes as remained found uses for a number of the vessels. The *Anonyma* became the pilot boat for the Bay. The *James K. Polk* was beached at the foot of the bluff near Clark's Point and was used as the first landing stage in San Francisco. The brig *Globe* was stripped and used as the Sacramento boat landing at the foot of K Street. Three deserted hulks served as a coal depot. The *Lenore* became a floating hospital. The *La Grange*, her copper siding sold for miner's sieves, was purchased at a ridiculously low price to be used as a prison ship for the city of Sacramento, and the *Euphemia* was sold by William H. Davis to the city of San Francisco for the same purpose. The *Niantic*, the *Mayflower*, and the *Sarah Sands*, one of the first iron steamships ever built, were grounded in the mud of the gradually rising "water lots"

and used as storage cellars and hotels. And the *Apollo* became a saloon in the days when liquid cheer was an almost indispensable solace for disappointment or sedative for success. About a hundred other ships were used for storage in view of the lack of space and fire hazards of the shanty and canvas town.

While the larger ships rotted in idleness or were used in lowly service, smaller vessels were in demand. Before the first piers were completed, lighters were necessary to transfer cargoes. And even after the first piers were being used, much of the freight had to be landed in small boats of various kinds. Charges for lighterage were extortionate and delivery was wholly problematical. One morning Captain Coffin went out alone in one of his lighters and before breakfast earned $60 by bringing in coffee from a Pernambuco brig. Cargoes were dumped off in the mud in unprotected piles. As consignees often could not be found, and truckage was frequently impossible to obtain, the goods would be auctioned off in a most cavalier fashion to the highest bidder. At first every article was in the greatest demand and a cargo would bring enough to pay for the ship and all the expenses for the trip around the Horn. But even before 1850 the market became overstocked, and some goods would not bring enough to pay lighterage. Crates, sacks of flour and cook-stoves were thrown into the mud to make a sidewalk, and tons of valuable products disintegrated on the water front without returning a cent to the owners, who, if members of a cooperative company, immediately forgot their loss in the excitement and hardships of the trip to the mines.

Up the Sacramento River

For the passage to Sacramento, the first stage of the final race, gold seekers were willing enough to pay

exorbitant fares, as high as fifty dollars often being charged and twenty-five dollars to two ounces of gold dust ($32) remaining the usual fee. Freight, too, brought fifty dollars a ton to the ships attempting the river trip.

Had the first steamer in the bay remained in commission and proved sufficiently powerful, she would have made a fortune for her owner. In 1847, William A. Leidesdorff purchased a small steam launch from the Russians at Sitka, which was brought down in the bark *Nasledwich* for the purpose of speeding up the collection of hides and furs from the various embarcaderos of the bay region. Put together under the lee of Goat Island, on November 15, she picked up Leidesdorff and his party at Yerba Buena and steamed out for her first trip in the bay. The little *Sitka*, or the *Little Stika*, as she came to be called, made a fine showing on her maiden trip to Goat Island. But she didn't have power enough to go against the wind to Santa Clara, and it took her some weeks to make the trip to Sutter's Fort and a month to come back. On February 2, 1848, a "norther" swamped the little vessel at her moorings, and her wheel-house and upper works were washed ashore by the gale. At the time of the first rush to the mines, small boats were so scarce that without her engine this unsteady little craft sold for $15,000 in gold dust at sixteen dollars an ounce.

A steam launch brought out on the deck of the *Lenore* was too valuable to sell for $30,000, and similar boats brought $35,000 or more. The secret of their price was the sudden and tremendous demand for transportation to Sacramento. Small schooners capable of working up to Marysville could get as much as $150 a ton for freight. As early as April, 1849, the bark *Whicon*, drawing nine and a half feet of water, successfully made a passage to Sutter's embarcadero, and proved that medium-sized sailing vessels could ascend the Sacramento River. A

motley array of square-rigged ships, barks, brigs, schooners and longboats followed in increasing numbers as the excitement grew. But the passage was not as simple as it sounds. Unless the wind was just right the larger vessels had trouble, in the first place, in making their way through the forest of shipping. Then the west wind usually took them easily enough past the new naval station and the budding city of Benicia, which many expected to outgrow San Francisco itself.

The passage of San Pablo and Suisun bays also presented no difficulties, but near the junction of the Sacramento and San Joaquin rivers the trouble began, as Captain George Coffin's journal, for instance, gives ample evidence:

"I steered away to the northeast, following some boats that I knew were bound to Sacramento, and after about ten miles of circuitous sailing among marshy islands, I came to elevated grounds, covered with large trees, and here commences the Sacramento River; all below this to Suisun Bay is a basin of 'tule' marshes. Looking away to the southeast I can see the sail of a number of small craft bound up the other river to Stockton.

"The Sacramento at its mouth is about a quarter of a mile wide, but, having advanced about two miles, it narrows to five or six rods, and here begin the trials and troubles of river navigation. Both banks are so overgrown with huge oak and sycamore trees, with an impervious screen of underbrush, that it is impossible for the wind to find its way through, and there we lay, entirely becalmed, while the tops of the trees are dancing in a stiff breeze, and we have now invaded the region of mosquitoes, and they are very large, savage and bloodthirsty. The current is running down at the rate of three or four miles an hour, not a breath of wind, and the thermometer above 100 degrees.

"The only way to advance is to warp and tie. I run the sloop alongside of the bank, tie her to a bush, then send the boy ahead with a long line, which he makes fast to a tree and brings the other end back on board, and then he hauls away forward while I stand off to assist and coil down the line, steering the boat with the tiller between my knees. Having dragged the craft up the length of the line, we tie her to a bush again, while John runs the line ahead again; and so on, warp and tie, warp and tie, and in this way it is a good day's work to gain three miles, for nearly half the time the warp line gets foul of some snag or root on bottom, and it has to be slipped and run out again. Gracious Heavens! I exclaim, and is this the way I have got to work up to Marysville? One hundred and fifty miles of this sort of navigation! I have undertaken a pretty sort of a job, to be sure! 'No matter; gold's the talisman,' as Simon Spriggins says, 'will lighten all my labors.'

"April 2.—Warp and tie, warp and tie, warp and tie! Sun shining down in a blaze of fury, with not a cloud to screen his scorching rays; thermometer 110 degrees, not a breath to cool our frizzling livers—and mosquitoes! oh, my conscience!

"We started at daylight this morning, and in order to lose no time in cooking, I took the Portland patent miner's cook-stove aft, so that I could attend to getting breakfast while the boy was busy running out the line and working ahead.

"The branches of the trees extend out over the river in some places forty or fifty feet and it requires much caution to keep the sloop mast clear of them. As we had just passed one of the largest of these scraggy branches and I had given the sloop a sheer in again, the warp line gave way and down stream came the sloop broadside to the current; the masthead caught in the branch and laid her

down upon her side. I seized the tiller and overboard went P. P. M. cook-stove, breakfast and all. Oh, delightful! The masthead held fast till the inclination gave it a chance to swing clear, when up she came again, right side up, so suddenly that John, who stood looking up at the ominous branch in great trepidation, lost his balance and made a backward somersault into the river, to look for his P. P. M. cooking-stove.

"Down stream went the sloop, and before we could stop her she had drifted some rods below where we started from this morning. Labour and breakfast lost and cook-stove gone to the bottom of the Sacramento, there to remain a memento of the voyage of the *Sophronia*. We had a fry-pan and coffee-pot left, and went on shore, made a fire, fried some ham and eggs, and never did I relish ham and eggs so well before.

"There is a cut-off, or slough, in this river, which saves ten or twelve miles, but, being a stranger, I missed it, and took the main river, and, after toiling a week, I reached the upper junction. Here the slough enters the river at an acute angle, the river half a mile wide and the slough about thirty yards; directly at the junction there is a little knoll or islet, with half a dozen great sycamores on it.

"Against this knoll were two large schooners, crowded in among the branches by a six-knot current, and just as I was passing there a third schooner was emerging from the slough. She had no sooner run her stem out into the river's current than she flew round like a fan of a windmill and drove down foul of the other two, and jib-booms and main-booms snapped off like joss sticks, and gaff-topsail and staysails became pennants.

"The river being wider here, I had the advantage of a light breeze, and at night had gained the enormous amount of twelve miles. On the 12th of April I reached

the city of Sacramento, after fifteen days' labour and boiling and roasting."

The trip farther up the river was increasingly difficult, but ultimately—after 35 days—Captain Coffin reached the head of navigation.

"Marysville is situated on a tongue of land at the junction of the Feather and Yuba rivers; the landing fronts the latter, which at this time is about thirty yards wide and twenty feet deep in the channel, but in the dry season it is but a mere gully, with scarcely water enough for a Joppa wherry to navigate. Here are six hotels, as many gambling saloons and about twenty stores, mostly of canvas. Trade was brisk, wagons and pack mules continually coming and going."

Since the trip to Marysville netted Captain Coffin a profit of $2,500, he bought the 25-ton sloop *Merlin* and essayed the adventure again.

"Now the sun is glaring, the air is suffocating, and the mosquitoes, with fresh-sharpened stilettoes, are as greedy as sharks; I took the precaution to provide myself with a hood of gauze, which I find very useful, but the infernal buzz of these pests is the next annoying thing to their sting; they are all around my face and neck, singing, 'Let me in, let me in.'

"There is no wind, so there is no help for it. It is either warp and tie or be still and die from heat and vexation. I took the slough this time, and thus saved ten miles, and in ten days I reached Sacramento, where I found the *Sophronia* waiting for me to come along.

"By dint of warping, poling, rowing and sailing we reached Nicolaus in eight days from Sacramento . . . . The river had now fallen very much, exposing the limbs and trunks of numerous great trees lying prostrate in the stream, making navigation difficult and dangerous. As came in sight of 'Plumas' I had a light breeze up the

river, and giving the helm to Louis I stationed myself on the end of the bowsprit to look out for snags. The water was clear, so that we could see any danger in season to avoid it.

"We were going on at about the rate of three miles an hour, and I felt encouraged at the prospect of making one good day's trip. It was breakfast time, and I left the boy on the lookout, and went to the cuddy for a cup of coffee; I had finished my breakfast and was lighting my segar, *a dear and costly segar it proved*, when I felt the sloop hit a snag. I did not suppose that the blow had force enough to cause any injury, and was busy in running out a line to haul her off, when passing aft I cast my eye down the cuddy hatch and saw that the cabin was half full of water. I staggered and fell, for I saw at once that I was ruined. I had staked my all and twice as much more on this adventure, and had toiled through suffering almost unendurable, buoyed up by the hope of all ending in a good profit, and then to have the prize, when almost within my grasp, thus suddenly snatched away by one cruel blow! It was too much!"

With conditions making life on sailing vessels intolerable, the insistent demand for steam navigation of the Sacramento and San Joaquin rivers can be understood. The *Pioneer*, brought out on the deck of the *Edward Everett*, was probably the second steam launch on the river. William V. Wells, of the Boston and California Joint Stock Mining and Trading Company, made one trip to Sacramento as captain before the company broke up and the boat was sold to Simmons and Hutchinson for $6,000. The *McKim*, 327 tons, was one of the earlier packets on this run, as well as in the service to Panama. By midsummer of 1849 the San Joaquin River trade amounted to from $50,000 to $100,000 a day at Stockton alone, according to Samuel C. Damon, who reported his

impressions in his paper, *The Friend*, of Honolulu. Early in '49 William H. Davis and his associates had anticipated the demand and ordered a steamboat from New York. Their representative, when he found that a stern-wheel boat was being built for the same service, refused to place the order. The *Sutter*, as the new river boat was appropriately named, came safely around the Horn and made big profits for "Jim" Blair, her owner. But the *Senator* proved the bonanza of the river fleet. This Long Island Sound steamer of 750 tons burden was purchased by Lafayette Maynard and a syndicate of New Yorkers. After the trip through the Straits of Magellan she reached San Francisco early in September, 1849, where she was greeted by a delegation of four covetous capitalists. Sam Brannan, the spokesman, offered $250,000 in gold dust at $16 an ounce for the steamer. But the vessel was not for sale.

"It was often remarked," wrote William H. Davis, with pardonable exaggeration, "that the *Senator* had carried enough gold from Sacramento to San Francisco to sink her two or three times over with the weight of the precious metal. Add to this the passage and freight money, the former two ounces for the trip, and the latter from forty dollars to eighty dollars per ton, and the amount received was enormous. It would probably take two or three similar steamers to convey the freighted gold, and the gold and silver coin she had earned for her owners during the height of gold production."

The Backwash from the Mines

Only a few months after the first rush, a double stream of miners began to return from the diggings. Loaded down with gold dust and nuggets in treasure belts and leather pouches, a roaring, hilarious company soon began to make the return trips of the river vessels as profitable as the voyage up-stream. In this wild brotherhood there

were not a few whose cool self-composure and constant watchfulness indicated that their good fortune was due to character rather than to luck. But the successful of both types were only a minority of those who returned. Weak or ill from sunstroke, influenza, fever, and other diseases, discouraged by hardships and ill-success, the less fortunate and less hardy men drifted back with the down current and ebb tide.

Both streams, the successful and the failures, poured their thousands back into the city by the western gate. Dissipation, gambling, speculation, vagrancy, menial labor to pay for a return ticket, hilarity, the organization of new enterprises, the establishment of business, and special service with the Vigilantes, occupied, according to their varying temperaments, the returned Forty-niners. But in one enterprise they whole-heartedly united—the welcoming of the mail steamer.

The arrival of the mail steamer was signaled by a look-out on the heights back of the Presidio to a semaphore on Telegraph Hill, the arms of which could be set in a code understood by everybody on the crowded streets. Immediately the queue emanating from the postoffice would stretch out to unbelievable lengths, augmented by miners hungry for a word from home and vagrants anxious to sell their places for $5 or $10, or even more, if by chance they were near the head of the procession. A change in the arms of the semaphore would send a crowd of idle or anxious spectators to the heights to watch the ship come around into the bay. Finally, there would be a rush for the dock, where, accompanied by the playing of bands and the shouting of the crowds, friends could be welcomed, the latest gossip learned, and ancient eastern newspapers purchased at fabulous prices. Not until the last sack of mail was landed, taken to the postoffice, sorted and distributed would the excitement subside.

Then, a few days later, past the city of mud, tents, and rising city blocks, on the one hand, and the dead forest of abandoned ships, on the other, the ebb tide would bear out the Pacific Mail steamer and her load of returning gold hunters.

At Panama, Henry Sturdivant recorded his impression of the majority of those homeward bound:

"Hundreds of people from the Atlantic cities are waiting a passage to the gold regions, and every boat on her downward trip is filled with those homeward bound. I went down to the beach, where one of the ships from San Francisco was landing her passengers, and a more miserable, ragged set of men I had never seen before, not even among the beggars of a European city. Some were too weak to walk up to town, and were being carried on the backs of the natives. Some told hard stories about California, while others said it was a good country for a poor man if he could have his health. In contrasting this group of men with those just from home, I could see a striking difference between those who had seen the Elephant and those who were just crowding up for a peep."

Among this motley troop there were, however, men of a different stamp. One of these was Dr. Thomas Flint, returning with his brother Benjamin, and his cousin Llewellyn Bixby, who embarked two years later on the independent steamship *Northerner:*

"1853—January 1st: Concluded to carry our gold on our persons stowed in buckskin jackets made for the purpose. Sailed in the morning. Soon found the gold, some $3,500 each, burdensome. Could not get it any way so it would not drag and become painful night or day. We therefore took possession of a berth, there being plenty of them and put our jackets between two mattresses and made ourselves comfortable. One of us

sleeping over our deposit nights and being on guard during the day.

"January 16th: Steaming along in Bay of Panama for the city. Arrived early in the morning. Were advised to spend but little time in the city on account of the hostility of the natives from a recent riot with passengers. Before leaving the steamship we packed our gold in a small chest we had for our blankets and clothing. It was so large that the weight was not sufficient to rouse curiosity or suggest its contents. A small valise or satchel having gold in it would be snatched or stolen if not closely watched and backed with a revolver.

"1853—January 27th: Arrived in New York early in the morning. Left our baggage in a hotel on Fulton Street. Took our gold in a valise and started for Philadelphia by Camden and Amboy railroad. Arrived at Washington Hotel, Philadelphia, about 9 o'clock that evening. Took a room together for safety as the negro porter's eyes looked wild when packing in our valise—it weighed over 50 pounds.

"The next day took the gold to the U. S. Mint. Had to wait a day for it to be assayed, everything in shape of gold had to pass through the assayer's department, $50 slugs—coin from private mints of San Francisco and native gold.

"January 29th: Got our mint receipt of the value of our deposit. We were dressed a little rough when we arrived in Philadelphia and at the hotel were seated at the most inconvenient table, but as we dressed up somewhat and the report of our gold got more and more known we got pretty well up in the dining room before we left the Washington."

Such were the men, who, returning as permanent settlers to the land of their good fortune, have built the permanent prosperity of the Golden State.

Chapter XVI

CHAPTER XVI

The Golden Age of Sails—and After

IN ONE YEAR gold transformed the sleepy village and harbor of San Francisco into the busiest mart of the world. In June, 1847, a village of 459 souls (Indians included), San Francisco suddenly expanded by 1850 into "a city of 25,000," through which other thousands were passing almost daily. Everything which miners, merchants, or settlers needed, except beef, climate, and gold, had to be brought out by sea. As a magnet attracts steel filings, so this lodestone drew all the idle ships of the western hemisphere and most of those of the rest of the world, and diverted from their regular runs, at least for a time, all the other ships which could be spared. Several hundred ships, deserted by crews and even owners, lay rotting at anchor or grounded in the mud of the water front. Small handy schooners and brigs were busy on the bay or up the rivers. Deserts and mountains made an impassable barrier to overland trade. Mexico, Nicaragua, New Granada offered no facilities for the transport of supplies. At first only the route around the Horn was available for large cargoes of commodities so urgently demanded. Quick delivery over this sea path of 15,000 miles was amply rewarded. Freight rates from the east coast jumped to forty dollars,

fifty dollars and even sixty dollars a ton. A ship promising the quickest passage and thus commanding the highest rates could repay her entire first cost in one voyage from New York to San Francisco. Speed thus became the open sesame to the wealth of the land of gold.

Up to mid-century, speed had been in special demand in only two services: the trans-Atlantic passenger and express packet runs, and the Canton tea races. The former had been the occasion of developing the sturdy and swift packets which were long preferred to the earlier steamships on the run to Liverpool. The constant drive for speed had refined their lines and increased their spread of sails, but the rough weather of the North Atlantic and the demand for stability and strength kept the packets from the extreme development soon to take place.

The Canton service, however, anticipated the conditions of the gold rush and was the occasion of the building of the first of the series of clipper ships which were the climax of the evolution of the sailing vessel, a development beginning with the dawn of history and accelerating to this sudden burst of perfection. Anticipating these sea race horses, the *Ann McKim* was built in 1832 for Isaac McKim. Quite fittingly, Baltimore, long famed for her clipper brigs and schooners, was the site of the new experiment. The measurements of the *Ann McKim* prove how far marine architecture had advanced since the old Spanish days on the west coast. While the "round" merchant boats of those days were twice as long as wide, and the galleons expanded the ratio to 3 to 1, this first experimental clipper was 143 feet long and 31 feet broad, a ratio of 4.6 to 1. For a number of years the *Ann McKim* sailed to Canton in the tea service, but, in spite of her speed, failed to prove a bonanza because of her small carrying capacity.

It was ten years before the essentials of this design

were repeated or any advance was attempted. Then John W. Griffeths, after working out in theory and in a model the ideas he wished to embody, designed the first extreme clipper, the *Rainbow*, for Howland and Aspinwall of New York. The most noticeable features of the new type were the concave waterlines and the long tapering bow. The rake of the masts and the long low lines of the freeboard would also mark her in any port. Her record of 92 days to Canton and 88 days in return shows what she might have done in a race to California, had she not vanished in 1848 in one of the perennial mysteries of the sea.

Only a few other extreme clippers were built before the gold rush. Notable among these was the *Sea Witch*, 890 tons burden, with a ratio of more than 5 in length to 1 in breadth, and carrying "a cloud of canvas." After four voyages to China in record time this beautiful clipper was ready for the race to California.

The repeal of the British Navigation Laws in 1849, which threw the seven seas open to free competition, and the announcement of the discovery of gold in California, which provided the incentive, combined to open the golden age of sails, 1850-60. Ship builders collected skilled workmen from the whole east coast and rushed into the game of constructing clipper after clipper. Designers, especially the famous Donald McKay, aiming to add canvas and cut down resistance, produced a harmony of line, beauty of proportion, and stateliness of motion which no handiwork of man has ever surpassed.

Clipper Ships

The *Memnon* was the only extreme clipper to reach San Francisco in 1849. But by the summer of 1850 the sight of such slender, long-prowed speedsters became familiar and their records a topic of intense interest. In the first clipper race around the Horn seven vessels finished with

the following passages: the *Sea Witch*, 97 days, the *Celestial*, 104 days, the *Samuel Russell* and the *Racehorse*, 109 days, the *Houqua*, 120 days, the *Memnon*, 123 days, and the *Mandarin*, 126 days.

The 97-day record set by the *Sea Witch* stirred the pride of all possible competitors, especially the friends of the *Surprise*, which was commanded by the famous Captain Philip Dumaresque, and which, with her equally fine lines and greater tonnage (1,361), gave promise of making even better time.

"One of our most distinguished merchants," runs the account in a contemporary San Francisco newspaper, "made a bet with a friend some weeks since that the *Surprise* would make the passage in ninety-six days. . . . Yesterday morning [the ninety-sixth day], full of confidence, he mounted his old nag, and rode over to the north beach to get the first glimpse of the looked-for clipper. The fog, however, was rather thick outside, and after looking awhile he turned back to town but had not arrived at his counting-room before he heard that the *Surprise* had passed the Golden Gate, and by eleven o'clock Captain Dumaresque was in his old friend's counting-room on Sansome Street. She has brought 1,800 tons of cargo, which may be estimated at a value of $200,000. Her manifest is twenty-five feet long."

Continuing the account, G. W. Sheldon wrote in *Harpers Magazine*, January 1884: "Her greatest run was 284 miles in twenty-four hours, and she reefed her topsails but twice during the voyage of 16,308 miles. She soon left San Francisco for London by way of Canton, and on reaching the English capital her receipts for freights had entirely paid her cost and running expenses, besides netting her owners a clear profit of $50,000. At Canton her freight for London was engaged at £6 sterling a ton, while English ships were taking their freight at £3 and

£4 a ton; and this was the second season that preference had been given to American ships at advanced rates, their shorter passages enabling shippers to receive prompt returns from their investments, to save interest, and to secure an early market."

Famous also is the tale of the *Sovereign of the Seas*, largest of McKay's majestic clippers, 2,421 tons register and 258 feet long. Under command of Captain Lauchlan McKay, the builder's brother, she made record time to Cape Horn, but on the Pacific side was hit by a squall which carried away her fore- and main-topmasts and foreyard. Without putting into port, Captain McKay supervised the re-rigging of more than half her spread of sails and continued on into San Francisco Bay in the remarkable time of 103 days.

Donald McKay's last extreme clipper, the *Romance of the Seas*, and her race with the *David Brown* deserve to be better known. Launched October 23, 1853, the *Romance* was the sharpest ship yet constructed and certainly the equal of any in her lines and perfection of finish. She was so slender that although rated at 1,782 tons register she could carry only 2,000 tons of cargo. The ratio of her length to breadth was 240 to 39½ or a trifle more than 6 to 1. The figurehead on her slender raking prow was "Romance," a very creditable sculpture of that idealized and ever-alluring maiden. On either side beneath this siren were painted the names of Scott and Cooper. An idea of the area of sails which she could carry may be suggested by the dimensions of her main mast: mainmast, 81½ feet, topmast, 47, topgallantmast, 25, royalmast, 16½, skysailmast, 12½, or a total of 177½ feet.

On December 13, 1853, the *David Brown*, Capt. George S. Brewster, sailed from New York. Three days later the *Romance of the Seas*, Captain Philip Dumaresque, rounded Boston light. At the equator the *Brown* was four days

ahead. But by some error in judgment or unforeseen fatality, the leader got caught in the calm to leeward of the Island of St. Roque and lost three days in tacking back into the trades. From the Brazilian coast the two ships, the *Brown* still leading, raced south and rounded the Horn in sight of each other. The same storm struck both ships and tore off a jib-boom from each. In the Pacific the *Romance* still could not make up the few hours' distance which separated them for two months. They tore across the equator almost in sight of each other, with all sails set for the finish. Besides the eighteen regular sails, clippers often rigged spencers, stunsails, moon and water sails and a "ringtail," or studdingsail attached to the gaff of the spanker. With many of these auxiliary sails set for weeks at a time the ships ran before the trades up the backstretch. Within 500 miles from their haven the two ships were abreast, the *Romance*, however, in the favorable position nearer the coast. On March 23, 1854, the *Romance of the Seas* sailed through the Golden Gate, the *David Brown* following within the hour.

The log of their passage reads: the *Romance of the Seas*—15,154 miles, 96 days and 18 hours, an average of 156.6 miles a day; the *David Brown*—16,167 miles, 99 days and 20 hours, average day's run 161.1. Not satisfied with this almost dead heat, the two ships discharged their cargoes as fast as possible, shipped new crews, and in eight days were racing to China, where they arrived at Hong Kong within three hours of each other.

But passages were not always as smooth as these. And even worse than the storms at sea were, sometimes, the tempests of passion, and, under the conditions, the necessary brutality on board. To reef a sail on an icy yard swinging in a great arc 150 feet above the narrow deck meant pain and danger. And there were officers hardened to the duty of seeing that no such task was shirked. Gold

and the West lured Americans, only a few years before noted for their seamanship, to more profitable careers on land. Good crews of Swedes or Britishers were not often available. In New York crimps would dump on board a complement of 50 to 100 drunken toughs, according to the need of the occasion. And in San Francisco captains often had to ship their crews out of jail, because sailors had deserted the water front for the mines.

For the most part the iron discipline produced the highest efficiency ever seen at sea. But often human nature, the nature of the derelicts shipped before the masts, could not stand the pace. The *Challenge* was the stage of the classic battle by which Captain Robert H. Waterman cowed the collection of cutthroats of all nationalities which had been thrown aboard to act as his crew. Only two of the gang were Americans and only six were capable of properly steering a ship. Many of the men were criminals, seventeen were diseased, and nearly all of them brought on board "bottles of rum, knuckle-dusters, sling-shots, bowie-knives, and pistols." While the captain was giving his hearties a little advice, the officers of the ship went through the seamen's baggage and threw their weapons over the side. Captain Arthur H. Clark gives a vivid account of the sequel in his incomparable *The Clipper Ship Era*, but a quotation from a letter of Captain Waterman's (quoted in Dr. O. T. Howe's *Clipper Ships*) will indicate the main features of the fracas:

"The truth is, when in the neighborhood of Rio, about 50 of the crew fell on the mate with the intention of killing him and afterwards me, by their own confession. I was on the poop taking observations while the mate stood forward at the galley. They stabbed him and had beaten him shockingly before I could get to him. I struck down three of them, rescued the mate, and quelled the

mutiny. I flogged eight of them. Off Cape Horn, three men fell from the mizzen topsail yard and were killed, and after a few weeks four more died of dysentery."

For the most of the voyage Captain Waterman was in sole command, his mates being incapacitated, and for eighteen days he was continually on duty, not once going below for rest in his cabin. At San Francisco some of the blacklegs in the crew spread stories blaming Captain Waterman for all the hardships of the voyage, and a mob of idlers was soon out with the aim of stringing him up. But the captain offered to go before any authorized public court to defend himself, and indeed would have had no trouble in proving that the men had ample rations of the same supplies served to passengers, and that for incompetence and insubordination the toughs of the crew got what they deserved.

With the new commander, Captain Land, and crew, the *Challenge* next sailed over to China. She was one of the largest of the clippers, registering 2,006 tons, and carrying an enormous spread of sails on her yards. "With square yards and lower studdingsails set, the distance from boom end to boom end was 160 feet," and her main mast towered up to almost record dimensions: Mainmast, 97 feet, topmast, 54, topgallantmast, 36, royalmast, 24, and skysailmast, 19½, total length, 230½ feet, equaling almost the greatest height of California's giant trees. For sails she carried 12,780 running yards of cotton canvas, woven especially for her by the Colt Manufacturing Company.

Pausing at Hong Kong to load 553 Chinese coolies, the *Challenge* returned to San Francisco in thirty-four days, only one day more than the record. Probably this passage of slightly more than one month is the best measure of advance in shipbuilding since the days of the Manila Galleon which used to take about five months for that portion of the voyage.


Franz Gerlitz

The Flying Cloud

Most famous of all the clippers, in the days of the supreme achievement of sails, was the *Flying Cloud*, holder of the two record runs from New York to San Francisco. Built by Donald McKay and commanded by Captain Josiah Perkins Creesy, she set out on her maiden voyage, June 3, 1851. Three days out from New York she lost in a storm her main and mizzen topgallantmasts, and maintopsail yard. Within twenty-four hours the rigging was replaced. A few days later it was discovered that the mainmast was badly sprung. Without delay it was skilfully fished. On July 11, a storm struck the weakened mast, making it necessary to take down the main royal and topgallant yards. Again repair work was carried on without a moment's unnecessary delay. During the last week in July she rounded the Horn from 50° South Atlantic to 50° South Pacific in seven days. And on July 31, Captain Creesy recorded laconically: "Distance run this day by observation is 374 miles," a record confirmed by Lieutenant Maury of the United States Naval Observatory at Washington to be the greatest distance ever performed from noon to noon on the ocean up to that time and only surpassed by the *Flying Cloud* herself, the *Typhoon*, and one or two other clippers during this record breaking period. On August 31, she sailed majestically into San Francisco Bay 89 days and 21 hours from New York. On her fourth voyage the *Flying Cloud* set the all-time world record of 89 days and 8 hours from anchor to anchor, a record challenged only by the *Andrew Jackson* a few years later. But Dr. O. T. Howe points out that on close inspection the *Jackson's* 89-day run proved to be an elapsed time of 90 days and 12 hours from anchor to anchor.

The best of clippers could not have made such phenomenal records except under the direction of one of the

most masterful of the keen and efficient commanders who often drove crew and ship to the breaking point—and beyond. Disasters followed this terrific overcrowding of canvas and overdriving of men. But the disasters, unless absolutely fatal, were miraculously retrieved by the skill and will of these supermen. In presenting to Captain Creesy of the *Flying Cloud* a testimonial, consisting of a complete service of silver plate, Mr. Walter R. Jones, president of the Board of Underwriters, said at the ceremonial dinner, February 3, 1855:

"Sir, on your late passage from China, when in command of the celebrated ship *Flying Cloud*, with a rich and costly cargo of delicate goods, the total value of which probably amounted to a sum between a million and a million and a quarter of dollars, you encountered adverse currents and stormy and foggy weather, which carried your ship upon a coral reef on the 7th of August last, in the China seas, striking with such severity that her bow was raised out of the water three or four feet, her shoe taken off her keel, and her keel itself cut through to the bottom planking, causing her to leak badly and to make a great quantity of water. With a skill that none but a first-rate ship-master possesses, you soon extricated her from her perilous situation, without cutting away her masts or making any other great sacrifice, which is often done, nominally for the benefit of whom it may concern, proving very frequently, however, to the great detriment of all concerned. In a very short time you had her afloat, ready to proceed, when the important question arose in your mind where you should go, on the settling of which much depended. Again your good judgment manifested itself. The expensive and costly ports in the straits were near at hand. You determined to avoid them, and no one can say how much you saved to those interested in your valuable ship and cargo, but it is reasonable to sup-

pose that those concerned have been saved at least thirty thousand dollars, and probably much more. In fact, no one can probably tell the extent of saving with much accuracy; all know it to have been very large.

"At that time your qualifications as a skillful commander again became manifest, and you seem also to have combined in yourself the talents of the merchant as well as the ship-master. After relieving your ship, your attention was directed to the next best movement, and in that you rendered us an important service; instead of running your ship into an expensive port, before referred to, where the positive and known charges would have amounted to a very large sum, you examined the condition of the vessel and the means at your command, and although your crew was weak and insufficient, you made up your mind to proceed homeward, and, with a very leaky ship, you left the China seas, and in a very short time thereafter, to the great relief of the underwriters, you reached this port in safety, and with scarcely a damaged package on which a claim could be made on the underwriters."

Some monument to this Yankee captain should have been erected, and the *Flying Cloud*, the swiftest of all wind-blown vessels, the most beautiful of all sea-borne ships, should have been kept as a perpetual monument of the genius of her builder and of the golden age of sails. But when the California fever died down, Captain Creesy went into other commands and the *Flying Cloud* was sold into the British service, where after an honorable old age—never long at sea—she found her place in the port of missing ships where the clippers now repose.

Much might be written about each of the 172 clippers listed by Captain Clark, and indeed no story of American ingenuity, pluck and creative genius is more fascinating

than *The Clipper Ship Era*, into which he has condensed the history of these racers.

The breeze-blown swiftness of their beauty is suggested by the poetry of their names, recalling all the famous winds of the globe: *Cyclone*, *Lightning*, *Nor'wester*, *North Wind*, *Simoom*, *Sirocco*, *Storm King*, *Trade Wind*, *Tornado*, *Typhoon*, *West Wind*, *Whirlwind*, *White Squall*, *Wings of the Wind*. The calm of night as they drifted in light airs under the moon is pictured in other "heart-remembered names": *Starlight*, *Star of Hope*, *Star of Empire*, *Star of Peace*, *Star of the Union*. Only the *Sancho Panza* gives a suggestion that the common sense of steam would conquer the romance of ships "lifting their wings to the wild wide air."

But the days of the clipper were numbered. By 1854 the over-supply of goods in San Francisco caused many a ship to be turned back with cargo still in the hold. The demand for speed slackened. Finally the opening of the Panama Isthmian railroad robbed the great racing ships of their most expensive cargoes. No more extreme clippers were built. For five years more medium clippers were fashioned and found plenty to keep them occupied, especially in the race to the new mines in Australia. But by 1860 the "Clipper Ship Era" was over. Only the *Star of India*, formerly the *Euterpe*, remains in the harbor of San Diego to remind the Twentieth Century of the golden age of sails.

Disasters of the Whaling Fleet

Another picturesque episode of the sea was now also nearing its climax and sudden catastrophe. Not immediately dependent on California for its rise or fall, the whaling industry was, however, a factor in the prosperity of San Francisco and an asset, the potential value of which was never fully utilized on the coast. Discussing this neglected opportunity, Hutching's *California*

Magazine, April, 1857, quotes Hawaiian papers and comments as follows:

"The *Polynesian* of November 22nd (1856), says: 'From the first of November to the present date, twenty-two days, sixty-four ships and one brig, engaged in the whaling business, have entered the port of Honolulu, having on board an aggregate of 68,230 barrels whale oil, and 782,500 pounds bone, worth in the United States, $1,700,000 . . . .'

"By the last census, it appears that there are 36,000 seamen engaged in the fisheries from the United States. Of this great number, 16,000 are engaged in the whaling business, in six hundred ships.

"San Francisco ought to be made the rendezvous of the American whalers, and California from her geographical position, ought to rival the rest of the world in the whale fishery. She claims by right, the Pacific, or a good share of it, as her own, or ought to, and which, with the north seas, are the best whaling grounds on the globe; and nothing but the proper enterprise is wanting, to enable her with a fleet of whalers, to plow her own grounds, and reap an ocean's annual whale harvest."

San Francisco was too busy with gold, real estate, and Pacific Railroad schemes to capture the whaling fleet. But whaling ships were a familiar sight for some time; and the romance, hardships and tragedy of this strange industry was a part of the marine life of the Bay City.

At the end of the Civil War the Confederate warship *Shenandoah* cruised in the Pacific and made the whalers her prey. After capturing a number in the South Pacific she sailed north and on June 21, 1865, two and a half months after Lee's surrender at Appomattox, Captain Waddell brought her into the Behring Sea, which was now the favored hunting ground, and started to ravage

the innocent whaling fleet. Within one week he captured twenty-five vessels, and burned all except three or four that he placed under heavy bonds to carry the prisoners to port. On August 2, Captain Waddell received authentic news that the war was over. His crew "struck the guns of the *Shenandoah* into the hold for ballast; they boarded up the port-holes; they stowed the small arms between decks. With a record of fifty whaling vessels captured and forty-six of them destroyed, Waddell headed south round the Horn and north to England. On November 6, 1865, he let go his anchors in the Mersey and surrendered the ship to the English authorities."

As if this disaster were not enough, another struck the whaling fleet. In the spring of 1871, the whale hunters were following the edge of the Arctic ice pack as it receded up the Behring Sea. Sperm whale had pretty well been chased out of accessible waters, but bowhead whales and walrus could always be had near the ice. By the end of August the fleet was near Point Barrow and preparing to turn back. But a strong west wind came up and began to crowd drift ice around the vessels. By September 2 the thickening floe of ice crushed the ships against the solid pack. First the *Comet* and then the *Roman* were driven against the grounded ice and stove in. One by one the ships were abandoned, and on September 14 the crews escaped to shore as best they could. The refugees—there were 1,219 of them—after two wretched days on land, found crowded quarters on the seven ships which had managed to avoid the crush. Thirty-three vessels were abandoned and the loss amounted to between one and two million dollars. From this tragedy the whaling industry, as carried on in sailing vessels out of New England ports, never recovered.

The Passing of Sails

In the growing haste of the world must this thing be:
The passing of sails forever from the sea?
Fewer always the sails go out to the West;
More and huger the steamers howl to the star—
Trailing their smoke afar,
Staining the deep and the heaven's patient breast.

As George Sterling looked out upon San Francisco Bay he bewailed the last stages of the change that had to come. With the exception of a stray cargo schooner now and then, the merchant sailing vessel had disappeared. But the dominance of steam was not won without a struggle. For fifty years the competition was carried on before the windjammer ceased to be a factor in ocean trade.

One of the first modifications was the substitution of iron for wood and copper in the hull. As early as 1853 the clipper ship *Lord of the Isles* was constructed with an iron hull and her example was slowly followed until, twenty-five years later, practically all vessels had steel bottoms. Steel spars and wire shrouds and stays soon followed.

When speed was no longer the chief desideratum, the clippers transferred to other routes, and then, their rigging cut down to standard proportions, served their time as common cargo carriers, like race horses wearing out their later days dragging delivery wagons over monotonous pavements. Freight rates from New York to San Francisco fell from $40 a ton to $15. Capacity and economy now became the necessities for the survival of sailing vessels. The old clipper crews, sometimes totaling 105 seamen and a dozen "boys," had to be cut down. The handling of canvas, previously involving the appalling difficulties of reefing enormous icy sails on spars high above the deck, had to be simplified. The stowing away and breaking out of cargo had to be speeded up.

To accomplish these ends a series of important innovations was introduced by marine architects. One of the first changes was the division of topsails and sometimes of top-gallant sails by cutting them in half horizontally and attaching the lower half to an additional yard. Thus the traditional five sails carried by each mast became six or seven, and labor of furling them became less in proportion to the decrease in area of canvas, although there were more sails to handle. Purely mechanical means of spreading or reefing the eighteen to twenty-three regular sails and almost as many auxiliary sails could not be used. A simpler system became necessary.

Fore-and-aft rigging now came into favor, since it required only two regular sails with each mast. It had long before been discovered that schooners were more handy than square riggers, and could sail closer to the wind. The economy of this design now attracted chief attention. It was discovered that the halyards could be given a turn around a steam winch and the great sails hoisted by a donkey engine. The same useful appliances could be used to handle all kinds of cargo. The economy of schooner rigging mechanically controlled became greater with increase in the size of the ship. Schooners of three, four, and five masts became a common sight, and even seven-masted schooners occasionally sailed through the Golden Gate. With the donkey engines to hoist the anchor and the sails, and steam power applied even to the capstan and steering gear, a "four-poster" of 2,500 tons could in 1900 get along with a crew of thirty-five men, while a 1,000 ton ship in 1850 carried a crew of eighty. Such economy kept sailing-ship cargo service going around the Horn to the end of the century, the last line with regular schedule in the New York-San Francisco service being finally discontinued only in 1900. Even for some years after that, lumber schooners plied on the coast runs and larger

windjammers in British registry knocked about the seven seas, finally touching at Honolulu and coming to port in San Francisco. But the opening of the Panama Canal was the final death warrant of sails; and sailing vessels, great and small—except yachts and motion-picture sets—are as rare on the Pacific Coast as are now the sea otter, fur seal, and sperm whale of yore. Their passing has brought a revived interest in the romance of sailing ship days, and with George Sterling, poet of California, many of us:

Dream of the purple brine
And the blazoned pomp of the saint on the galleon's van,
As, dark from the deep, the sails of Raleigh or Drake
On the gold of morning ran. . . .

Splendid now on my dream
The snows of the clipper gleam,
Towers of marble, glorious, tall in the sun—
Hurling south to the hurricanes of the Horn.
O pinions, wrenched and torn
By the north Atlantic's breath,
On homing whalers, three years' cruising done.
(Captain! captain! what of the seas of Death?)
O colored sails of the little fishing-boats,
From a thousand turquoise harbors venturing,
Under the tropic day!
Grey canvases that bring
The shapely sealers to San Francisco Bay,
Where the steel-walled cruiser floats.
But I hear a naiad sing,
And softer now in my vision the vans of silk
Glimmer on eastern shallops, by dusk adrift
On waters of legend; and webs as white as milk
Are wafting a murdered queen to her island tomb,
Where the cypress columns lift.
And ghostly now on the gloom
The shrouded spars of the Flying Dutchman go
To harbors that none shall know;
Foamless the ripples of her passing die
Across the dark, and then from the dark, a cry!

Chapter XVII

CHAPTER XVII

Steam

With the passing of sails, Romance would seem to have abdicated her age-old empire of the seas. The substitution of dirty coal for the clean trade winds as the propelling power might be considered a symbol of the degradation of adventure to commonplace. And the establishment of scheduled service in competition with railroads would appear to be the last stage of the conquest of mechanism over those glorious uncertainties which ever lure the pioneer spirit. But the ocean is too great to be so easily conquered, and even steam may be only an instrument for the ever-creative spirit of man.

Certainly adventure did not disappear with the coming of the first steamships on the Pacific Coast. By January first, 1850, twelve assorted steam vessels had churned their way around the Horn. A stern-wheel river steamboat, a Hudson River ferry, Long Island Sound steamers, and the Pacific Mail wooden sidewheelers made up the number. The sidewheelers were dependable carriers, but had serious drawbacks. When loaded too heavily, as for several years they invariably were, their clumsy wheels plowed too deeply into the water and "tied up" the engines. At best they did not make more than eight knots

an hour, and when overloaded could scarcely maintain a speed of five or six. Their worst feature, however, was their enormous consumption of coal. And, on the west coast, there was in 1849 no coal. Whereby hangs the pathetic tale of Mrs. D. B. Bates:

Spontaneous Combustion

"On the 27th of July, 1850, I sailed from Baltimore in the ship *Nonantum*, of Boston (Bates, master), bound to San Francisco," wrote the captain's wife in her *Scenes in the Pacific*, 1857. "In the ship's hold was stowed one thousand and fifty tons of coal; the between-decks were filled with provisions for the steamers plying between Panama and the El Dorado of the West. The coal with which we were laden was taken from the Cumberland mines, brought directly to Baltimore in open iron cars, subject to frequent showers of rain on the way, and deposited in that condition on the ship."

The voyage was pleasant enough until the *Nonantum* was well down the Brazilian coast, when "suddenly the aspect of affairs changed, and we encountered a terrific storm, the bare recollection of which almost makes me shudder." Mrs. Bates occupied the cabin, a house none too securely fastened upon the deck, the windows of which were battened tight shut, and for three or four days she had to lie there in her bunk in total darkness listening to the storm. Then smoke was discovered between decks.

"The alarming truth instantly flashed upon our minds. The gas that originated from the coal had generated fire. Orders were immediately given to get up provisions and water sufficient to last until we could be released from our awful situation. While thus engaged, several of the men were rendered senseless from the effects of the gas. They next proceeded to close the hatches and caulked

every seam tightly, in the hope of arresting the progress of the fire it was impossible to extinguish.

"Captain B— shaped his course for the nearest land—the Falkland Islands, which were eight hundred miles distant. We were soon obliged to vacate the cabin, which was filled to suffocation with gas; and for five consecutive days and nights, I remained in a chair which was lashed to the deck. It was quite cold, and often I was drenched with the water and spray that would dash at intervals across the deck. . . . If possible, the nights exceeded in anxiety the days; impenetrable darkness surrounded us, relieved only by sheets of white foam dashing over the bows, as the doomed ship madly plunged into the angry waters. . . . Each day the ship was getting hotter; gas and smoke were escaping at every seam. We constantly feared an explosion, as the natural consequence of so much confined gas. . . . On the twelfth day after fire was first discovered, we made the Falkland Islands."

At the nearest point Mrs. Bates was put ashore, where she enjoyed such hospitality as was possible in this bare and inaccessible region, inhabited by 400 lonely people, English, Spanish and French. Next day the ship appeared in the inner harbor, so badly on fire that she had to be scuttled. "They cut holes in her side, and sank her in depth of water sufficient to cover the fire. For two days she was enveloped in steam, which precluded all possibility of gaining the deck." What remained had to be sold for a song, leaving Captain and Mrs. Bates and the crew marooned until another waif of the sea should come along.

After about a month the ship *Humayoon*, from Dundee, bound to Valparaiso, laden with coal, tar, and liquors, put in to procure water and beef. Jolly Captain McKenzie entertained the Islanders on board several times, playing Scotch airs for them on a number of musical instruments

and enlivening their drab existence by his "extraordinary musical talents." As hospitable as he was jolly, Captain McKenzie took Captain and Mrs. Bates aboard and on November 25 sailed off for Valparaiso. "A spirit of harmony and love seemed to pervade the whole ship's company," as the *Humayoon* approached the Straits of Le Maire, through which the skilful captain wormed his ship in a quick passage.

"That night, it came on to blow tremendously. Next morning, we found ourselves eighty miles from land, and, horror of horrors, the ship on fire! . . . Our worst fears were too soon confirmed by the flames darting upwards, and igniting the hatch the men were vainly endeavoring to caulk, for fear had paralyzed their faculties. When that burnt and fell in, the flames shot upward almost to the topmast-head. The combustible nature of the cargo caused the fire to increase with wonderful rapidity." Without bread or water the entire crew had to take immediately to the longboat, from which by extraordinary good luck they were rescued soon after by the *Symmetry*, of Liverpool, Captain Thompson, bound to Acapulco, laden with coal! "It seemed to me," writes the afflicted Mrs. Bates, "that every ship that floated was coal-laden."

Life on the *Symmetry* was as unhappy as the days aboard the *Humayoon* had been jolly. Seven months out from Liverpool the ship was about out of provisions, and the captain lacked the generous and happy disposition of the Scotchman. After thirteen days they spoke the *Fanchon*, of Newburyport, Captain Lunt, bound to San Francisco, *laden with coal*. Captain Lunt, who had sailed from Baltimore three weeks after the *Nonantum*, was delighted to see his friends and took Captain and Mrs. Bates aboard, while Captain McKenzie and his men made arrangements for the *Symmetry* to put them off at Valparaiso. As a

parting courtesy, after thirteen days on his ship, Captain Thompson presented Captain Bates with a bill for $150.

On Christmas Day, when the *Fanchon* was twelve hundred miles from land, Mrs. Bates again smelled the telltale odor of carbon monoxide. The rest laughed at her and proved by a search that all was well. But three days later they discovered that the whole body of coal two or three feet below the surface was red hot. The ship's course was immediately turned toward the Galapagos Islands and later toward the coast of Peru. Calms and glassy seas made exceedingly slim the chance of reaching the shore, and no sails were descried. Finally, they came in sight of the snow-capped Andes and anchored just beyond the surf of a cove fifty miles from Payta. After they had landed with all that their boat could carry, they scuttled the ship. Two hours later the fire burst out in a sheet of flame. By three o'clock that night only a smoking hulk remained.

Fifteen leagues from fresh water, the party existed with the aid of Indians who brought the most meager supplies once a day on their balsa (raft), until aid came from Payta. In the course of time, the bark *Carbargo*, Captain Barstow, of Massachusetts, rescued Captain and Mrs. Bates and took them, along with a cargo of mules, sheep, and fowl, to Panama. "It was not an agreeable cargo; yet I had no fears of spontaneous combustion, although I afterwards learned there was coal for ballast."

This series of adventures may suffice to illustrate the difficulties of supplying fuel for the new California steamers. Regular delivery of coal had to be organized and coaling stations provided before regular schedules could be guaranteed. And all arrangements for supplies, repairs, dockage and wharfage had to be improvised in ports fifteen thousand miles from manufacturing centers and mines. Most certainly steam brought problems de-

manding as much initiative and ingenuity as the conquistadores had to show in overcoming the unprepared nations of the two Americas.

The Panama Railroad

The gold rush had been so sudden and for five years thereafter the Panama crossing was so painful, that few people then or since have realized the early date of the plan for the Panama Railroad. In the spring of 1848, when William H. Aspinwall secured the contract for the mail service on the Pacific side of the Isthmus, the railroad was projected, and before the news of the gold strike had reached the East a formal contract was secured from the government of New Granada granting very favorable terms. All public lands lying on the line of the road were to be used gratuitously by the company, 250,000 acres of land to be selected by the grantees were donated, the termini of the line were confirmed as free ports, and the determination of tolls and fares was left to the discretion of the railroad officials.

Early in 1849 the survey commenced, and resulted in the selection of a route beginning at Navy Bay, passing over thirteen miles of swamps, skirting steep hill sides, crossing the divide at an elevation of two hundred and eighty-seven feet, and ending on Panama Bay. Original plans called for construction to begin at Gorgona; but river navigation by two small steamers brought out for the purpose proved impossible, and all the bungos of the region were busy in taking Forty-niners up to the head of navigation.

The completion of the Panama Railroad in January, 1855, upset the previous equilibrium existing between the various routes to California. Complete cargoes of heavy freight still went around the Horn, but passengers and express were hurried from coast to coast across the isthmus. During the first year of the

new road 16,289 passengers crossed on the way to California and 10,015 people returned. The gold shipment for the year was $31,671,815. Between 1855 and 1867, $750,000,000 in specie was transported over the Panama line without the loss of a dollar. All mails were carried over this route and over the railroad, when it was completed, until after 1857 the overland mail by stage and Pony Express began to make quicker and more frequent deliveries possible. Immediate transfer of passengers from shore to shore forestalled the deadly work of the mosquitoes, and made the crossing perfectly safe.

Until 1859 the United States Mail Steamship Company controlled the steamers running from New York to Aspinwall, while the Pacific Mail owned the fleet on the western side. In spite of the division in ownership the two lines worked together with the common aim of besting Commodore Vanderbilt, whose North American Steamship Company proved that the Nicaraguan route could be made a real competitor. The Vanderbilt steamers ran to San Juan del Norte, whence steam vessels took passengers up the river and across the lake. A short land journey transferred the passengers to San Juan del Sud, where the Vanderbilt line or independent steamers were awaiting them. This route across the little Central American state was much shorter than the one used by the first 'Forty-niners, and threatened at any time to be developed into the most attractive crossing. To meet this competition the Pacific Mail and the Panama Railroad combined in 1859 to purchase from the Collins line the *Adriatic*, *Atlantic*, and *Baltic*, excellent trans-Atlantic steamers. It was a critical period in the life of the American merchant marine. Jealous southern politicians in the log-rolling Congress of those days voted down the subsidies which were necessary to maintain any American competition against the Cunard service.

The Collins line (sole American rival) was forced out of business. A wild scramble for the coastwise trade began. Fares went down and speed went up as the two Panama lines, the Nicaragua steamers, and independents, raced down the coast and across the Caribbean Sea.

"In December, 1859, there was a very spirited race between the *North Star* and the *Atlantic* from New York to Aspinwall. The latter had the advantage from New York Harbor all the way down the coast to the east end of the island of Cuba, where the *North Star* formed a closer acquaintance with her competitor, and from there to Aspinwall the vessels were not out of one another's sight. They were driven with all the power of their engines to the end of the contest, but the *North Star* arrived at Aspinwall fifteen minutes before the *Atlantic*. Time from New York, 7 days, 3 hours and 20 minutes. The shortest time made up to 1855 between San Francisco and New York was 19 days and 2 hours of running time." On this record run the trip on the Pacific side was made by the *Golden Gate*.

Privateers

Competition such as this could not continue indefinitely. The former Collins liners had to be released. Soon afterward, the southern states seceded. The blockade was established and privateers began to prowl about. On December 7, 1862, the *Alabama* pounced upon the *Ariel* of the Vanderbilt line, as she was rounding the east end of Cuba with the usual consignment of passengers and goods for California. On giving bonds for $261,000, she was released to continue her journey.

Even on the Pacific side trouble threatened. The biweekly shipments of specie from San Francisco enabled the Federal treasury to pay the northern army in gold and maintained the credit of Washington in spite of the stupendous expenses. During the war years from 1861

to 1864, $186,012,460 was shipped from California to the Federal Mint at Philadelphia. The passage of the Pacific Mail steamers down the coast was too great a temptation for Californians of Southern sympathies, who already were familiar with such adventures by sea as the recent filibustering expeditions of Walker, Raoussett-Boulbon, and Pindray.

In February, 1863, Ridgley Greathouse purchased the clipper schooner, *J. W. Chapman*, and with his associates Asbury Harpending and Alfred Rubery, gathered a company of adventurous spirits and proceeded to collect a cargo of miscellaneous goods consigned to Manzanillo, Mexico. Not expecting people to be deceived by this ostensibly pacific purpose, the conspirators let it be understood that they were gathering a filibustering expedition to aid Mexico against France. Cannon, arms, and ammunition were secretly loaded into the hold, and on the eve of departure a company of armed men was concealed below decks. The plan was to slip out as quietly as possible, declare the ship a Confederate privateer, authorized by a letter of marque from Jefferson Davis, administer the oath of allegiance, distribute Confederate uniforms, throw overboard excess cargo, take on, further down the coast, additional military supplies, and then lie in wait for the Pacific Mail S. S. *Oregon*. Totally unprepared for an unexpected attack, the *Oregon* would be an easy prize, would furnish more than a million dollars in gold dust to cover expenses, and would serve well enough as an improvised cruiser to harry commerce until time to run for a neutral port. The plan was excellent and not at all impossible of execution. But, just as the *J. W. Chapman* cast off moorings, the crews of two boats from the U. S. sloop-of-war, *Cyane*, boarded her, and revenue officers arrested the whole company. The three ringleaders were tried,

convicted, fined $10,000 each, and sentenced to ten years imprisonment. They were confined at Fort Lafayette. In the course of time, however, Rubery, an Englishman, was pardoned and Greathouse was released. What became of Harpending is not stated. The *Shenandoah* arrived on the coast too late to cut gold shipments and had to be content with playing havoc with whalers, whose life was hard enough without this unnecessary visitation.

The Civil War and the completion of the continental railroad in 1869 combined to make unnecessary the previous wild competition over the various isthmian routes. In 1863, the Atlantic Mail S. S. Co. purchased the Vanderbilt steamers, and in 1865, the Pacific Mail absorbed what was left of both. Its capital stock, originally $400,000 in 1850, had been increased to $20,000,000, with a monopoly value of half as much more. A large fleet of walking-beam-engine side-wheelers provided the service on both sides.

Trans-Pacific Service

In 1867 regular monthly service to the Orient was instituted, with an annual mail subsidy of $500,000. Within seven years the service warranted the building of the two largest and, in every respect, best steamers registered under the American flag at that time. The transformation of the fleet from side-wheelers to iron vessels propelled by reciprocating engines and screws began in 1873. The launching of the *City of Tokio* and the *City of Peking* in 1875 marked the final dominance of the new type and the provision of what even today would be called modern service. These vessels registered 5,080 tons each, and boasted a length of 400 feet. After the completion of the continental railroad, passenger traffic over the Isthmus of Darien decreased, but a profitable

freight service was long maintained. The arrival and departure of the steamers on the Oriental run now supplied the chief interest of the San Francisco water front.

The activity of the Pacific Mail in the mid-seventies was stimulated by the Central Pacific group, who were out to gain control of their rivals if possible. The *Oceanic*, first steamship of the rival line, arrived in San Francisco, June 25, 1875. The *Belgic* and *Gaelic* were soon added to the fleet of the new Occidental and Oriental S. S. Co., which for a quarter of a century competed with the Pacific Mail in the Oriental service.

The seventies also witnessed the coming of the tramp steamer, a type of roving cargo carrier which opened up all the ports of the world to commerce and transported occasional passengers to the most out-of-the-way places. The first tramp steamer on the coast entered San Francisco Bay in 1874. Following the *Altoona*, which came across from China, thirty more tramps pounded over from Hong Kong during the year.

The eighteen-seventies saw, too, the establishment of regular steamship lines to Honolulu. The Pacific Mail put on regular sailings in 1878, and four years later the *Suez* and other ships were put on the route by Claus Spreckels, whose vast interests in Hawaiian sugar and California refineries motivated his interest in the Island trade.

Specialized Fleets

While the coastwise and foreign trade of San Francisco was gradually building up, following the post-war adjustments, a prosperous whaling industry carried on largely in locally built steamships had its rise and fall. The cycle really began in 1876, when seven vessels brought in to San Francisco 2,800 barrels of oil, 8,800 pounds of bone, and 7,000 of ivory. The climax came in 1892, when 42

vessels brought in 12,700 barrels of oil, 416,850 pounds of bone, and 15,800 pounds of ivory, in value well over a million dollars. By 1910 the figures had dropped below the level of 1875. The old sport of a fair fight between a boat load of sailors and a king cachalot was over. Harpoon guns, bombs, compressed air (to keep the carcasses afloat), and other mechanical contrivances were used with deadly effect upon the lesser species of balænae, until they hardly existed within reach of the coast. And then the great war came with its insistent demand for oils of all kinds. In all out-of-the-way places of the globe "shore whaling" and the hunting of all oil-bearing sea animals down to the porpoise have about "done for" all the spouting fish with the horizontal tail; and indeed sperm and right whales, the greatest and most mysterious of living creatures, are practically extinct. They have gone to hunting grounds that could not fail to be happier, where they hob-nob with passenger pigeons, sea-otters, and the dodo, which are not, for men annihilated them.

By the end of the century San Francisco had a large fleet busy in the fisheries and in seal hunting off the Pribiloff Islands. Smaller fleets of local importance went out from such ports as Eureka, Monterey, and San Diego, for mackerel, salmon, albacore, tuna, sardines, sea-bass, smelt and sand-dabs according to the season and the locality. In the north the salmon were particularly profitable, while the great variety of fish within reach from Monterey and southern points have kept increasingly busy a large population containing a substantial proportion of Portuguese, Italians, and Japanese. The magnitude of the fishing industry is indicated by the record for Los Angeles harbor, into which 1,250 entries of fishing craft brought 35,482,365 pounds of fish for the fiscal year 1926-7. Motor boats of various sizes have gradually replaced most of the boats propelled by wind

or steam. But the multi-tinted dories and small power boats remain, for instance, in the mist-gray or Neapolitan-blue harbor of Monterey, the old Pacific capital, to lend their local color—green, blue, red, yellow—to a coast which is essentially as picturesque as that of the Adriatic.

Yachting

Like white sea-gulls among cormorants and ducks, snowy-sailed yachts beat out from their coves and moorings and make their stately way through the fishing dories and small craft of harbor and bay from Mexico to Oregon. Numerous yacht clubs are the centers of interest in this field of healthful recreation and skilful sport. Regattas, races, and competitions of all kinds keep up the perennial interest in pleasure boat sailing and train an ever larger company of clever skippers. The crowning event of all for the sea-going yachts is the biennial race to Honolulu. The first race, projected from San Francisco, had to be postponed on account of the earthquake, and finally was started from San Pedro in 1906. Since then the start has been made once at Santa Barbara and several times in the Los Angeles region.

In 1926 the race was particularly exciting. After twelve days of sailing under full canvas and in ideal weather conditions the *Invader* crossed the finish just after midnight, on the morning of June 24, with a corrected time of 12 days, 2 hours, 48 minutes, and 3 seconds. In yacht races, however, the victory is not always to the swiftest or even to the first to finish, since the elaborate system of ratings gives smaller vessels an equal chance. Thus there was great excitement when the *Poinsettia* appeared off Diamond Head the next day. With an allowance of nearly twenty-four hours, she was granted an almost certain victory. Just at this juncture, however, she ran into a dead calm and remained in plain

sight from the shore helpless until dark. When she finally crossed the goal at 2:27 the next morning her corrected time was found to be just one hour, 14 minutes, and 17 seconds slower than the *Invader*. As if this were not a close enough finish, the *Teva* made a record only two hours slower. In passing it may be remarked that a passage of 2,228 miles in twelve days, while slow in comparison with the four and a half days' run of the *Malolo*, is, in proportion to the size of the vessels, as good time as the long evolution of the sailing ship has been able to produce.

The yachts of the six clubs in the San Francisco Bay furnish but a small part of the shipping on that busy harbor. The inland waters, in spite of railroad competition, maintain an ever growing fleet of boats specialized for every practical purpose. Most impressive of these services is the transportation system radiating from the San Francisco Ferry Building, erected at the foot of Market Street in 1895 by the State Harbor Commissioners. By 1923 more than 51,000,000 passengers were passing annually through this terminal, built on piles far out even beyond the original "water lots" where the ships of the Forty-niners used to anchor. The great railroad ferries at Vallejo, carrying whole Southern Pacific trains across the Carquinez Straits, now spanned by one of California's noblest bridges, have in the past been another striking feature of the inland waterways.

On the Sacramento River

The Sacramento River retains its leadership for fresh water navigation. After the first wild competition between most of the light-draught vessels of the Forty-niners' fleet, the river continued its phenomenally heavy traffic until the railroad came to compete and the tailings from the hydraulic mines were washed down to choke

up the channel. In 1850 the river fleet consisted of 18 steamers, 19 brigs, and 21 brigantines. Among these were palatial side-wheel passenger steamers, such as the *Antelope*, *Washoe*, *Chrysopolis*, and *Yosemite*. As the first mad competition died down the California Steam Navigation Company came to dominate the stream. For a while they had sharp opposition, their competitors going so far as to install steam calliopes on the *Whipple* and the *Chin du Wan*. But before the end of the decade the C. S. N. Co. had a monopoly of the passenger traffic and kept the dominating position until bought out in 1871-2 by the California Pacific Railroad Company, through which the control of the river passed to the Central Pacific and the Southern Pacific. In 1905 the annual shipments on the river amounted to more than 700,000 tons. Freight, grain and fruit furnished the bulk of the cargoes. By 1926 the river fleet had grown to 265 vessels, totaling 18,810 tons, and varying from the elegant passenger steamers down to schooners, scows, and motor-driven utility boats of various designs. So valuable is the river trade that now the city of Stockton is engaged in a comprehensive deep channel and river-front improvement project, which is planned to make the San Joaquin River a Pacific Ocean harbor.

The Growing Merchant Marine

While the local fleets of pleasure yachts, fishing vessels and passenger and freight carriers were growing to their present numbers, new developments were taking place in deep-sea trade and navigation. By the end of the century new competition appeared in the establishment of the German Kosmos line from Hamburg via Magellan Straits to San Francisco, 1899, of the Japanese Toyo Kaisen Kaisha, whose *Nippon Maru* steamed into the bay in January of the same year and of the British Blue

Funnel line which began service through the Suez Canal in 1900.

With the increase of foreign trade for the past fifty years there had been no corresponding increase in the American merchant marine. More and more the two island kingdoms, Great Britain and Japan, became the carriers of American goods. The proportion of our foreign trade carried under the Stars and Stripes diminished from 91 per cent in 1810 to 60 per cent in 1860, not an alarming decrease, in view of the diversion of world tonnage into the San Francisco trade. By 1870, the Civil War and cancellation of subsidies had cut down the proportion to 35 per cent, by 1910 only 8.8 per cent of our foreign trade was carried in American bottoms, and in 1914 the proportion fell to 1.97 per cent.

At this juncture the opening of the Panama Canal came to give the inter-coastal trade the greatest impetus it has had since the gold rush. Six lines with 47 vessels established regular services and the ports of Southern California sprang into unprecedented activity. The first steamer through the great canal steamed up the coast and was also the first vessel to dock at the first municipal wharf of the harbor of Los Angeles, then just beginning the rapid development which is still in progress. The future looked bright for an immense intercoastal trade and the revival of the American merchant marine on the high seas. A procession of steamers began to stream through the enormous locks and over the route which meant such hardship for the Forty-niners. Passengers could sit out on the decks under the colorful awnings, exclaim about the scenery, and listen to the brass bands. Truly all the hardships of the road to El Dorado had been conquered and the day of the American merchant marine had dawned.

But just at the auspicious moment, when the opening

of the Panama Canal cut the sea route from the Atlantic to the Pacific by 8,000 miles, Congress passed the so-called "La Follette Law" or Seamen's Act, which, when first applied, practically annihilated the American marine. In 1915, the Pacific Mail discontinued its historic service which for half a century had done so much to develop American trade and travel in the Pacific. Many ships of other companies were transferred to registry under foreign flags.

And then came the Great War. All the larger ships still under the American flag were taken for transport service. The American-Hawaiian Company fleet of 18 vessels went into government service. They made about 145 round trips to Europe and carried overseas 125,449 troops. Five of these ships were torpedoed. Other lines contributed similarly to the emergency, but perhaps the steamships *Yale* and *Harvard* were most useful. Taken from their Pacific Coast service, they were hastily transformed into transports for the largest possible number of men. "The vessels were then sent through the Canal, across the Atlantic to England, and placed in service on the English Channel, where they were used steadily through the war, transporting between them a total of 400,000 soldiers between the coasts of England and France." For the efficiency of their service each ship was awarded the gold chevron which she now carries on her forward stack. (After the war these ships were purchased by the Los Angeles Steamship Company, reconditioned at an expense of nearly a million dollars each and put again into service up and down the west coast.)

From the declaration of war until November, 1919, the Pacific coast marine was completely at the disposal of the government. Great shipbuilding plants sprang up at San Francisco and San Pedro. The California coast became a training ground for every branch of the

navy, and North Island, San Diego, became the great southwestern center for naval aviation. But in foreign and coastwise commerce, nothing was left under the American flag except a mosquito fleet of local carriers and oil tankers in government service. For a while all the energy of the west coast turned back to aid the nation to secure a dominating influence in the settlement of the problems of the Atlantic and Mediterranean. Then, with a rush, the genius of our westward marching empire turned with new creative energy to the vast and teeming Pacific.

Chapter XVIII

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Today and Tomorrow

IN NOVEMBER, 1919, ships began to return from government service to the trade routes of the Pacific. In the intervening months every commercial organization in California had come to realize the immense part an American merchant marine would play in the development of the Pacific into just such a busy crossroads as for a century the Atlantic has been. To prepare for the great expansion of ocean-borne commerce, every port of the California coast was studied and provided with a plan of expansion which would have seemed fantastic a few years before.

San Diego, with a fine natural harbor, planned additional wharves and docks. Los Angeles and Long Beach were busy making out of mosquito marshes and an open roadstead one of the busiest harbors of the world. For the year ending June 30, 1928, the total commerce of the port of Los Angeles aggregated 23,526,334 tons, valued at $879,001,266. The harbor is a port of call for 170 different steamship companies, whose ships made 7,532 arrivals during 1927. Of these arrivals 1,953 were in foreign trade and 1,570 in the inter-coastal service.

San Francisco long ago developed a fine water front under the management of the State Harbor Commission,

but improvements are constantly being made. In value, $976,008,085 (in 1926), the ocean traffic of this great port surpasses that of the new harbor of Los Angeles, especially in imports, which still largely come in through the Golden Gate. But the immense shipments of oil place Los Angeles ahead in total tonnage. Oakland is now engaged in most ambitious bay shore improvements. With only part of her water front developed, this rapidly growing city already does a foreign trade of nearly twenty millions, while her other receipts count up to $125,000,000 in value. Monterey and Eureka are taking increasing advantage of the revival of west coast commerce and fishing, and nearly three million dollars' worth of oil is shipped out of port San Luis.

In the fall of 1919, with the return of Shipping Board vessels to peace time duties and the addition of specialized carriers, new types of shipping, which had just begun to appear before the war, became familiar. The nineteenth century had seen the invention of the steamship, and the transition from paddle-wheel to screw propulsion. Many refinements of design had been adopted, but no major changes were made until the opening years of the new era. Then in rapid succession came the burning of oil for fuel, the turbine, the internal-combustion engine, and finally the perfection of turbo-electric propulsion.

The burning of oil has greatly simplified the problem of fuel supply, as well as incidentally doing away with much of the grime of the old coal burners. The *Loongana*, 2,338 tons, built in 1904, and the *Maheno*, built in 1905 for the Union Steamship Company of New Zealand, were respectively the first ocean-going turbine vessel and the first turbine ship to cross the Pacific. The continuous revolution of the turbine, its simplicity, and the saving of fuel its use makes possible, has caused this type of

power plant to be increasingly adopted in recent years.

The popularity of the turbine, however, depended upon increased flexibility in the application to the propeller shafts of the power thus generated. The direct drive was impractical except for the maintenance of uniform speed after headway had already been gained. The invention of gearing was a slow process, but finally attained the efficiency which has made possible maneuvering at all speeds forward and reversing the spin of the propellers. Finally, has come the turbo-electric power plant, in which oil burners generate steam, steam spins a turbine, the turbine drives a dynamo, the dynamo generates electricity, and the electric current energizes the motors which turn the propeller shafts. For great battleships and liners no better means of locomotion has as yet been invented.

The Diesel engine, in one of the forms in which the principle of internal combustion is harnessed for use in American vessels, is becoming yearly more common. It has done more than any innovation since the application of steam to change the silhouette of the ocean-going cargo carrier. Steam made masts unnecessary, and now petroleum has made smokestacks superfluous. A modern cargo motor ship has no super-structure at all, except a dumpy little deck-house, punctured by a few exhaust pipes, and a forest of stocky cranes. And yet, with no visible means of propulsion, motor ships registered as high as 23,000 tons ply their way across the Pacific, carrying proportionately larger cargoes in their spacious holds than any other type of automotive vessel.

The invention of aids to navigation has kept pace with the improvement in the power system. Wireless and radio have played an increasingly important part in removing the terrors of fog and storm, by keeping ships constantly in touch with each other and with fixed stations on shore. According to G. R. Putnam, Commissioner of

Light Houses, the radio position finder is the greatest aid to navigation since the invention of the magnetic compass. Battleships had proved its usefulness, but merchant vessels did not adopt this invention until the *H. F. Alexander*, in the run between Los Angeles, San Francisco, and Seattle, proved the value of being able precisely to locate a vessel's position in relation to two sending stations. Later, the radio-compass made possible quick location of two disabled vessels, to which rescue came, guided by the thin invisible beam vibration from radio to direction indicator. The gyroscope compass and depth detector now aid in insuring safety at sea. With time, speed, direction, location, sea depth, temperature, and barometric pressure indicated on dials in the chart room, a captain need not step out on the bridge except for a breath of air.

The Last Word in Steamships

Space lacks to tell about the rise of the great Pacific Coast steamship companies, the development of lines of commerce to ports in every ocean, the building up of trade in articles totally unknown fifty years ago, the development of specialized carriers for lumber and oil, the hardships, adventures, and disasters which are inseparable from life at sea (while this sketch was being written a tanker full of California gasoline blew up on the coast of Japan), and the thousand and one interesting items connected with the struggle to dominate the ocean and to meet the competition of a dozen nations. To illustrate the highest achievements of the merchant marine on the Pacific Coast today only three or four examples can be taken.

In 1891 Robert Dollar, who had recently arrived on the coast and had begun to develop large lumber interests, purchased the *Newsboy*, 260 net tons register. Today the Dollar interests operate immense fleets in coastal, inter-


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coastal, trans-Pacific and around-the-world service. Seventeen *President* steamers ply weekly across the Pacific and go around the world on a bi-weekly schedule which is as regular as that maintained by the best continental railroad. This procession of liners named after the presidents of the United States deserves more than passing comment, especially in a record of shipping on the west coast. The sailing of one of these fine steamers is an evidence that California is no longer "the back side of the world." Since January 1, 1924, when the *President Harrison* sailed out of the port of Los Angeles, precisely at four o'clock every other Friday afternoon, one of the *Presidents* has steamed out of San Francisco Harbor (the home port) to carry the American flag around the world. The circumnavigation which took Magellan's surviving ship three years and one month to complete, without the interminably tedious side trip to what was later thought to be the Island of California, is now regularly made from that very "island," without a stop in Spain or Portugal, in three months and a half!

In 1882 Captain William Matson began his long career of service in the Hawaiian trade by purchasing a part interest in the *Emma Claudina*, a 200-ton schooner. The first steamer on the Pacific to burn fuel oil was the *Enterprise*, which Captain Matson purchased in 1902 and on which he had oil burners installed. The *Enterprise* was also the first ship on the Pacific to be equipped for wireless communication. By 1927, the Matson Line was operating a fleet of fine passenger steamers—the *Maui*, *Matsonia*, *Manoa*, *Wilhelmina*, *Lurline*, *Sierra*, *Sonoma*, and *Ventura*—together with fifteen freighters, and had ordered a new flagship to set the standard of speed and comfort in ocean-passenger service.

On November 21, 1927, the *Malolo*, this record-breaking "Flying Fish," completed her maiden voyage from New

York City, and was welcomed to the hospitable islands with ceremonies traditionally reserved for kings. As the largest and swiftest merchant vessel ever built in America steamed around Koko Head and drew near Waikiki, a gaily decorated barge, carrying King Kaumualii, as the representative of King Kamehameha, and his court, set forth to greet the big ship off port and extend the welcome of the people of Hawaii. Outrigger canoes, the traditional ships of the Polynesians, glided about the great liner, while airplanes hummed overhead. There was a great banquet at the Royal Hawaiian Hotel, followed by a pageant and the inevitable speeches. A few days later the *Malolo* made a side trip to Hilo, where she was met by fifty Japanese sampans (modern power fishing boats) in formation, each bearing an American flag at its bow; a generous tribute from descendants of the race whose genius for navigation has made them one of the leading maritime nations of the world.

The *Malolo* now provides express passage from San Francisco to Honolulu in four days. Her powerful geared turbines maintain a regular speed of 21 knots an hour and are capable of 23. Similar service direct from Port Los Angeles to the Islands is maintained by the Los Angeles Steamship Company with its luxurious liners, the *City of Los Angeles* and the *City of Honolulu*.

Scarcely had the excitement caused by the *Malolo* died down before a new record-breaking liner completed her maiden trip to the west coast to initiate fast service from New York to San Diego, Los Angeles, and San Francisco. On February 12, 1928, the *California*, the third vessel of that name, steamed in through the Golden Gate after a passage of 15 days from New York with stops at Havana, the Canal, and the two ports of Southern California. The very name is a measure of the progress of shipping on the Pacific Coast. In the last days of the Mexican regime,

Captain George Cooper and his crew of four lazy Polynesians drifted in and out of the harbor of Monterey in the cranky old schooner which bore the proud name of the provincial empire she was supposed to guard. In 1849 another *California* was the first steam vessel to make the long pilgrimage around the Horn. The present *California* is a liner 601 feet long, with a displacement of 31,000 tons and accommodations for 750 passengers. Twelve oil-fired boilers supply steam for turbines which turn two generators to produce electric energy rated at 17,000 horsepower. Energized by this current, great motors, sixteen feet high, coupled directly to the twin-shafts, spin the propellers for record-breaking runs between New York and San Francisco.

The *California* is but one link in the endless chain of commerce between the east coast and the west coast through the Panama Canal. The *Malolo* is only the flagship of one fleet plying between California and the Hawaiian Islands. The *President* 535 type steamships, leaving in alternate weeks from Los Angeles and Seattle, provide one line of transportation to the Oriental countries across the Pacific, where dwells half the population of the globe. The *President* 502 liners leave San Francisco every two weeks to carry passengers and freight between Kobe, Shanghai, Hongkong, Manila, Singapore, Penang, Colombo, Suez, Port Said, Alexandria, Naples, Genoa, Marseilles, New York, Boston, Havana, Balboa, and Los Angeles. All four services are but an indication of the future of the California coast in the commerce of the Pacific and of the world.

Magellans of the Air

When Juan Sebastian del Cano brought the *Vittoria* into the roadstead of Seville, September 9, 1522, with the remnants of Magellan's expedition, could he or any

one else have foreseen the accelerating evolution of shipping and commerce represented by these ships and services? With this question our story of the romance of navigation might well have ended, had not a spectacular event taken place, which is as prophetic of the unknown future as Magellan's circumnavigation was of the commerce on the Pacific Ocean today.

At nine-thirty on the morning of March 17, 1924, three great air cruisers, with a mighty roar, sped across Clover Field, Santa Monica, and, gradually rising into the mist, disappeared to the northward on the first stage of the first circumnavigation of the world by airplanes. One day later the fourth plane took off and joined the others at Seattle.

The planes were designed by Donald Douglas and built at his factory at Santa Monica. From there they were flown to San Diego, where at Rockwell Field, the training ground for naval aviators, the cruisers were tried out and the compasses swung. From North Island, the great aviation center of the southwest, the planes returned to Santa Monica on the way to Sand Point Flying-field, Seattle, the official point of departure. There, on Lake Washington, the ships were fitted with pontoons, the engines retested, and final preparations made for the first crossing of the Pacific in the air.

On April 6th, under command of Major Frederick Martin, the eight men in four machines left the water, and, escorted by a number of planes, headed toward Alaska. High up in the air they sailed above the once-famed Nootka Sound, reminiscent of Russians and the fur trade. There the last of the escorts turned back, and the Douglas cruisers plunged into the mists of the Inside Passage above wooded islands and choppy channels whipped by the icy winds from the forbidding peaks and glaciers of the Alaskan Peninsula.

It was a lonely and hazardous undertaking, this flight around the world. But the dangers were reduced to the very minimum not only by the cooperation of the navy which patrolled the most difficult stretches of sea, and by the systematic preparations of the advance agents, but by the good will of everybody along the entire route. In fact, the curiosity of mobs of sightseers was one of the greatest dangers the airmen had to guard against, and the cordiality of entertainment committees from Prince Rupert back to California was one of the most enjoyable—and trying—ordeals they had to encounter.

At Sitka, Seward, and Chignik the chief anxiety was caused by the frightful "Willie-was," the sudden blasts of biting cold wind from the mountains, and the succession of fogs and blizzards which delayed their flight. It was while making the jump from Chignik on the Alaskan Peninsula that Major Martin and Sergeant Harvey in the *Seattle* nosed into dense fog and smashed against a mountain. Before their fate was known, the other six airmen were ordered to continue the flight down the Aleutian Islands. After the usual struggles with snow, fog, and sleet, they landed at Dutch Harbor, Unalaska, a rendezvous of the old whaling fleet. At Attu, westernmost of the Alaskan Islands, they learned that their comrades, snow-blind and weary with tramping through the wilderness, had arrived safely at Möller Bay.

Under command of Lieutenant Smith the planes crossed the Pacific and raced over the Kurile Islands to Japan. Lowell Smith, a native of Santa Barbara, was the pilot and Leslie Arnold the mechanician, of the cruiser *Chicago*. The *New Orleans* was manned by Erik Nelson and Jack Harding; while Leigh Wade and Henry Ogden made up the crew of the *Boston*. They were royally entertained by the ever hospitable Japanese, in a land still as beautiful and quaint as a print by Hiroshige.

Refusing entertainment whenever they could, they hurried on, flying when possible and working on their engines the rest of the time. Past Fujiyama and the active volcano of Sakurajima, across the China Sea, over Chinese rivers teeming with sampans and junks, down the coast to Indo-China, across Siam and the Malay Peninsula to Bangkok and Rangoon they flew, overcoming the difficulties of the tropics as they had fought the cold of Behring Straits; and skirted the Bay of Bengal to Calcutta. Substituting wheels for pontoons the fliers skimmed across northern India, followed the coast, the Persian Gulf and the Euphrates River, crossed Anatolia, and flew over Constantinople, Bucharest, Belgrade, Buda-Pesth, Vienna and Strassbourg in time to celebrate Bastille Day in Paris.

At Hull, in England, the pontoons were put on again, and the cruisers headed for the Orkney Islands and Iceland. Two of the great airplanes crossed to Hörnafjord without serious difficulty, but the *Boston's* air pump gave out and forced Wade and Ogden to land on the rough surface of the North Sea. After a few hours they were rescued by a trawler, the *Billingsby*, a United States destroyer, and the cruiser *Richmond*, Admiral Magruder's flagship.

The worst section of the entire flight now confronted the remaining fliers. From Reykjavik, Iceland, to Fredricksdal, Greenland, there were 830 miles of icebergs shrouded in fog. In this no-man's sea Locatelli, the Italian flier who took off with them, landed to avoid crashing into a berg, and after drifting for three days on the icy water, was almost miraculously rescued by the *Richmond*. But Smith and Nelson, after a dozen hairbreadth escapes, cutting through fog and hurdling hidden icebergs, made the crossing without damage. The jump to Labrador provided more than one thrill, but the rest of the way down the coast was simple enough. From the first signs

of civilization to New York and Washington the flight became increasingly a royal progress in honor of the kings of the air. After the official celebrations came the finish down the straightaway across plains and mountains to California.

"There isn't much use," said Lowell Smith, "trying to describe my feelings during this flight [the last stage across Arizona]. Every minute was bringing us a mile and a half nearer my California home, just over the desert's rim. We had been gone a long time. We had crossed vast continents and distant seas. We had passed through experiences when we lived a lifetime in a day. And now, on this radiant morning, San Diego lay ahead! When our wheels touched the soil of Coronado Island we had been around the world."

Magellan started with five vessels and 275 men. After 1,124 days Juan Sebastian del Cano returned in the *Victoria* with a crew of thirty-one, only a few others having survived and returned in other ways. Major Martin started the circumnavigation by air with four airplanes and eight men. After 175 days (363 hours and seventeen minutes actual flying time) Lieutenant Smith completed the circuit of 26,345 miles with two planes and four men, the other four returning in perfect health but without their wrecked planes. The cycle from Magellan to Martin lasted four hundred years. During the next cycle of four hundred years—or forty, if one accepts Henry Adams's theory of acceleration—what new navies may be seen in what uncharted skies, sailing around the world from California?

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The Academy of Pacific Coast History, Berkeley, California. *Publications.*

Harvard University Press., Dr. Octavius T. Howe, *Argonauts of '49.*

Historical Society of Southern California. Los Angeles, California, *Annual Publications.*

Harper and Brothers. G. W. Sheldon, *The Old Packet and Clipper Service*, Harper's Magazine, 68: 217-237.

Marine Research Society, Salem, Massachusetts. Dr. O. T. Howe, *American Clipper Ships, 1833-1858.*

A. M. Robertson, San Francisco. George Sterling, *Sails and Mirage*, 1921.

Houghton Mifflin Company. Lowell J. Thomas, *The First World Flight.*

Bibliography

SELECT BIBLIOGRAPHY—PART I

Hoofs, Wheels and Wings

Academy of Pacific Coast history. Publications. Berkeley, California, 1909-1919. 4 volumes.

Aero Digest. Volume II (1927). New York: The Aeronautical Digest Publishing Corp.

Aircraft yearbook. Aeronautical Chamber of Commerce of America. New York. 1927; *Ibid.*, 1928.

Albright, G. L., "Official explorations for Pacific railroads, 1853-1855." *University of California publications in history.* Berkeley, California. University of California Press. 1921.

Annals of the American Academy of Political and Social Science. "The Automobile: its province and problems." November, 1924; "Aviation," May, 1927. Philadelphia.

Armstrong, M. K., *The early empire builders of the great west.* St. Paul, Minnesota: E. W. Porter. 1901.

Atherton, Gertrude, *The splendid idle forties.* New York: The Macmillan Company. 1908.

Bancroft, Hubert Howe, *History of California.* 7 volumes. San Francisco: The History Company. 1884-1890.

Bancroft, Hubert Howe, *The native races.* 5 volumes. San Francisco: A. L. Bancroft and Company. 1882.

Barrows, H. D., "Reminiscences of Los Angeles in the fifties and early sixties," *Annual Publications Historical Society of Southern California*, vol. III, part I. 1893. Los Angeles.

Bates, Mrs. D. B., *Incidents on land and water: or four years on the Pacific Coast.* Boston: James French & Company. 1857.

Benton, T. H., "Highways from the Mississippi to the Pacific Ocean," *Speech of Mr. Benton of Missouri in the Senate*, February 7, 1849. Washington: Printed at the Office of the *Daily Globe*. 1849.

Bidwell, John, "The first organized emigrant train to California," *Century Magazine*, vol. LXI.

Bidwell, John, "Life in California before the gold discovery," *Century Magazine*, vol. LXI.

Blow, Ben, *California highways: a descriptive record of road development by the state and by such counties as have paved highways*. San Francisco: Printed by H. S. Crocker Co. 1920.

Bogart, Ernest Ludlow, Ph. D., and Thompson, Charles Manfred, Ph. D. (editors), *Readings in the economic history of the United States*. New York: Longman, Green & Co. 1917.

Bolton, Herbert E., *The Spanish borderlands* (The chronicles of America series, vol. XXIII). New Haven: Yale University Press. 1920.

Bolton, Herbert Eugene (editor), *Historical Memoirs of New California by Fray Francisco Palóu, O. F. M., translated into English from the manuscript in the archives of Mexico*. Berkeley, California: University of California Press. 1926.

Bolton, Herbert E. (editor), *Fray Juan Crespi, Missionary explorer on the Pacific Coast, 1769-1774*. (Historical Memoirs of California.) Berkeley: University of California Press. 1927.

Borthwick, J. D., *Three years in California*. Edinburgh: William Blackwood & Sons. 1857.

Bradley, Glen D., *The story of the pony express: an account of the most remarkable mail service ever in existence and its place in history*. Chicago: A. C. McClurg & Co. 1913.

Bryant, Edwin, *What I saw in California: being the journal of a tour, by the emigrant route and South Pass*. New York: D. Appleton Co. 1848.

Burnett, Peter H., *Recollections and opinions of an old pioneer*. New York: D. Appleton & Co. 1880.

Century Illustrated Magazine. New York. Volumes XLI-XLIII. (Articles by various writers.)

Chapman, C. E., *A history of California: the Spanish period*. New York: The Macmillan Company. 1921.

Cleland, Robert Glass, "Transportation in California before the railroads," *Annual Publications Historical Society of Southern California*, vol. XI, part I. 1918.

Cleland, Robert Glass, *A history of California: the American period*. New York: The Macmillan Company. 1922.

Cody, W. F., *True tales of the plains*. New York: Empire Book Co. 1908.

Colton, Walter, *Three years in California*. New York and Cincinnati: Cleaves, McDonald & Co. 1850.

Coman, Katherine, *Economic beginnings of the far west*. 2 volumes. New York: The Macmillan Company. 1912.

Cook, James H., *Fifty years on the old frontier, as cowboy, hunter, guide, scout, and ranchman*. New Haven: Yale University Press. 1923.

Costansó, Miguel, "The narrative of the Portolá expedition of 1769-1770." *Publications Academy of Pacific Coast history*, vol. I, no. 4. Berkeley, California: University of California Press. 1910.

Coy, Owen C., "Pony express antedated," *Grizzly Bear*, February, 1917.

Crespi, Fray Juan, *Missionary explorer on the Pacific Coast, 1769-1774*. Edited by Herbert Eugene Bolton. (Historical Memoirs of California.) Berkeley: University of California Press. 1927.

Daggett, Stuart, *Railroad reorganization.* Boston: Houghton-Mifflin Co. 1908.

Daggett, Stuart, *Chapters on the history of the Southern Pacific.* New York: Ronald Press Co. 1922.

Dale, H. C. (editor), *The Ashley-Smith explorations and the discovery of a central route to the Pacific, 1822-29, with the original journals.* Cleveland: A. H. Clark Co. 1918.

Dana, Richard Henry, *Two years before the mast.* New York: Harper & Sons. 1841.

Davis, John P., "The Union Pacific Railway," *Annals of the American Academy of Political and Social Science,* no. 182. Philadelphia: American Academy. 1896.

Davis, William Heath, *Sixty years in California.* San Francisco: A. J. Leary. 1889.

Davis, Winfield J., *History of political conventions in California, 1849-1892.* Sacramento: Publications of the California State Library, no. 1. 1893.

Delano, Alonzo, *Life on the plains and at the diggings: being scenes and adventures of an overland journey to California.* Auburn: Miller. 1854.

Dellenbaugh, Frederick S., *Breaking the wilderness. The story of the conquest of the far west, from the wanderings of Cabeza de Vaca, to the first descent of the Colorado by Powell, and the completion of the Union Pacific railway, with particular account of the exploits of trappers and traders.* New York and London: G. P. Putnam's Sons. 1905.

Donnelly, Charles, *The facts about the Northern Pacific land grant.* St. Paul: 1924. (Pamphlet.)

Doyle, John T., "The missions of Alta California," *Century Magazine,* vol. LXI.

Dunbar, Seymour, *A history of travel in America.* 4 vols. Indianapolis: Bobbs, Merrill Co. 1915.

Eldredge, Zoeth Skinner (editor), *History of California*. 5 volumes. New York: The Century History Co. (n.d.).

Ellison, Joseph, *California and the nation 1850-1869. A study in the relations of a frontier community with the federal government*. Berkeley: University of California Press. 1927.

Faris, John T., *On the trail of the pioneers, romance, tragedy and triumph of the path of empire*. New York: Doran. 1920.

Ferris, A. C., "Arrival of overland trains in California in '49," *Century Magazine*, vol. XLII.

Ferris, A. C., "To California in 1849 through Mexico," *Century Magazine*, vol. XLII.

Fitch, B. F., "The place of the motor truck in the modern city plan," *Annals of American Academy of Political and Social Science*, no. 133. Philadelphia.

Fizell, Russell Warren, *A study of certain aspects of the transportation system of Los Angeles*. A thesis presented to the department of economics, University of Southern California. 1924.

Font, Pedro, "The Anza expedition of 1775-1776 . . ." *Publications of Academy of Pacific Coast history*, vol. III, no. 1. Berkeley, California: University of California Press. 1913.

Forbes, Alexander, *California: a history of upper and lower California*. London: Smith, Elder & Co. 1839. (Reprinted with new index, San Francisco: T. C. Russell. 1919.)

Frémont, Brevet Col. J. C., *Oregon and California: the exploring expedition to the Rocky Mountains, Oregon and California*. Buffalo: Geo. H. Derby & Co. 1849.

Frémont, John Charles, *Memoirs . . . including the narrative of five journeys of western exploration during the years 1842, 1843-4, 1845-6-7, 1848-9. Together with a sketch of the life of Senator Benton in connection with western expansion* . . . Chicago: Belford, Clarke & Co. 1887.

Garrison, G. P., *Westward Expansion, 1841-1850.* (American Nation Series, vol. XVII.) New York: Harper and Brothers. 1906.

Goodwin, Cardinal, Ph. D., *The Trans-Mississippi west 1803-1853: a history of its acquisition and settlement.* New York: D. Appleton & Co. 1922.

Greeley, Horace, *An overland journey, from New York to San Francisco, in the summer of 1859* . . . New York: C. M. Saxton. 1860.

Gregg, Josiah, *Commerce of the prairies, or the journal of a Santa Fé trader.* New York: Henry C. Langley. 1844.

Grey, Zane, *Last of the plainsmen.* New York: Outing Publishing Company. 1908.

Guinn, J. M., *Los Angeles and environs* . . . Los Angeles: Historical Record Co. 1915.

Guinn, J. M., "Camel caravans of the American deserts," *Annual Publications Historical Society of Southern California*, vol. V, part 2. 1900.

Guinn, J. M., "Early postal service of California," *Annual Publications Historical Society of Southern California*, vol. IV. 1897.

Hadley, A. T., *Railway transportation: its history and its laws.* New York: G. P. Putnam's Sons. 1885.

Hafen, L. R., "Butterfield's overland mail," *California Historical Society Quarterly*, vol. II, no. 3. 1923.

Hafen, Le Roy R., Ph. D., *The overland mail, 1849-1869: promoter of settlement, precursor of railroads.* Cleveland: The Arthur H. Clark Co. 1926.

Haney, L. H., "A congressional history of railroads in the United States," *Bulletin of the University of Wisconsin*, no. 342. Madison, Wis. 1908.

Hill, Joseph J., *Ewing Young in the fur trade of the far southwest, 1822-1834*. Eugene, Oregon: Koke-Tiffany Co. 1923.

Hill, Joseph J., *The history of Warner's ranch and its environs*. Los Angeles, California: Privately Printed. 1927.

Historical Society of Southern California. Annual Publications. 13 volumes. Los Angeles, California. 1886-1927.

Hittell, John S., "The discovery of gold in California," *Century Magazine*, vol. XLI. 1891.

Hittell, John Shertzer, *Commerce and industry of the Pacific Coast of North America* . . . San Francisco: A. L. Bancroft & Co. 1882.

Hittell, Theodore H., *History of California*. 4 volumes. San Francisco: N. J. Stone & Company. 1885-1897.

Holland, Rupert Sargent, *Historic railroads*. Philadelphia: Macrae Smith Company. 1927.

Hough, Emerson, *The passing of the frontier*. (Chronicles of America series, vol. XXVI.) New Haven: Yale University Press. 1918.

Howe, Octavius Thorndike, *Argonauts of '49: history and adventures of the emigrant companies from Massachusetts, 1849-1850*. Cambridge: Harvard University Press. 1923.

Hulbert, Archer Butler, *Pioneer roads and experiences of travelers*. 2 volumes. Cleveland: The Arthur H. Clark Co. 1904.

Hunt, Nancy A., "By ox-team to California: personal narrative," *Overland Monthly*, n. s. vol. LXVII. April, 1916.

Hunt, Rockwell D. (editor), *California and the Californians*. Vol. I. *The Spanish Period*, by Nellie Van de Grift Sánchez. Vol. II. *California, an American Commonwealth*, by Rockwell D. Hunt. Chicago: The Lewis Publishing Co. 1926.

Inman, Henry, *The old Santa Fé trail*. New York: The Macmillan Co. 1898. Topeka: Crane and Company. 2nd. edition. 1910.

Inman, Henry and Cody, W. F., *The great Salt Lake trail*. Topeka: Crane and Co. 1913.

Johnson, Emory R., *American railway transportation*. New York: D. Appleton & Co. 1914.

Jordan, Wayne Early, *A history of railroad and public utilities regulation in the state of California*. A thesis presented to the department of economics, University of Southern California. 1918.

Kroeber, Alfred Louis, *Handbook of the Indians of California* . . . Smithsonian Institute, Bureau of American Ethnology, Bulletin No. 78. Washington: Government Printing Office. 1925.

Laut, Agnes C., *The blazed trail of the old frontier*. New York: Robert M. McBride. 1926.

Lightner, D. R., *Los Angeles as a railroad center*. A thesis presented to the department of economics, University of Southern California. 1916.

Lummis, Charles F., "Pioneer transportation in America, *McClure's Magazine*, vols. XXV-XXVI. October-November, 1905.

Majors, Alexander, *Seventy years on the frontier*. Chicago: Rand, McNally & Co. 1893.

McGroarty, John Steven, *California: its history and romance*. Los Angeles: Grafton Publishing Company. 1911.

Manly, William Lewis, *Death Valley in '49* . . . San José: Pacific Tree and Vine Co. 1894.

Mansfield, John, "Recollections of Los Angeles, 1875-1885," *Annual Publications Historical Society of Southern California*, vol. III, part I. 1893.

Markham, Edwin, *California the wonderful, her romantic history, her picturesque people, her wild shores, her desert mystery, her valley loveliness, her mountain glory* . . . New York: Hearst's International Library. 1914.

Maxwell, Wm. Audley, *Crossing the plains: days of '57: A narrative of early emigrant travel to California by the ox-team method*. San Francisco: Sunset Publishing House. 1915.

Moody, John, *The railroad builders: a chronicle of the welding of the states*. (The Chronicles of America series, vol. XXXVIII.) New Haven: Yale University Press. 1920.

Moore, Helen L., "California in communication with the rest of the continent, with reference chiefly to the period before the railroads," *Annual Publications Historical Society of Southern California*, vol. XIII, part I. 1924.

Murphy, Virginia Reed, "Across the plains in the Donner party," *Century Magazine*, vol. XLII. 1891.

Nevins, Allan, *Frémont: the west's greatest adventurer*. 2 volumes. New York: Harper & Sons. 1928.

Newmark, Harris, *Sixty years in Southern California, 1853-1913* . . . New York: The Knickerbocker Press. Revised edition, 1926.

Nordhoff, Charles, *California: a book for travelers and settlers*. New York: Harper & Sons. 1874.

Norris, Frank, *The octopus: a story of California*. New York: A. Wessels Company. 1906.

Overland Monthly. Files. San Francisco: 1868-1928.

Palóu, Francisco, *Francisco Palóu's life and apostolic labors of the venerable Father Junipero Serra, founder of the Franciscan missions of California; with introduction and notes by George Wharton James*. Pasadena: George Wharton James. 1913.

Parkman, Francis, J., *The California and Oregon trail: being sketches of prairie and Rocky Mountain life*. New York: Hurst and Company. (n.d.)

Pattie, James Ohio, *The personal narrative of James Ohio Pattie of Kentucky . . . 1831*. In Thwaites, R. G. (editor), Early Western Travels, vol. XVIII. Cleveland: The Arthur H. Clark Co. 1905.

Paxson, Frederic Logan, *The last American frontier*. New York: The Macmillan Co. 1910.

Paxson, Frederic Logan, "The Pacific railroads and the disappearance of the frontier," *Annual Report American Historical Association*. 1907, vol. I.

Paxson, Frederic L., *History of the American frontier, 1763-1893*. New York: Houghton-Mifflin Co. 1924.

Popular Radio and Television. Files. San Francisco: 1911—.

Priestley, Herbert Ingram (editor), "The Colorado River campaign, 1781-1782, Diary of Pedro Fages," *Publications of the Academy of Pacific Coast History*, vol. III, no. 2. Berkeley: University of California. 1913.

Purnell, Ruth, *The influence of the four transcontinental railroads on the disappearance of the frontier*. A thesis presented to the department of history, University of Southern California. 1924.

Richardson, Albert D., *Beyond the Mississippi: from the great river to the ocean. Life and adventure on the prairies, mountains, and Pacific Coast.* Hartford, Connecticut: American Publishing Company. 1867.

Robinson, Alfred, *Life in California.* New York: Wiley and Putnam. 1846.

Root, F. A., and Connelley, W. E., *The Overland stage to California.* Topeka: Crane and Co. 1901.

Sabin, E. L., *Building the Pacific railway* . . . Philadelphia and London: Lippincott. 1919.

Sawyer, Lorenzo, *Way sketches . . . from St. Louis to California in 1850* . . . New York: Edward Eberstadt. 1926.

Shaffer, C. T., "Los Angeles aviation meet," *Scientific American Supplement*, vol. LXIX. 1910.

Shinn, Charles Howard, "Pioneer Spanish families in California," *Century Magazine*, vol. XLI. 1890.

Smalley, Eugene Virgil, *History of the Northern Pacific railroad.* New York: G. P. Putnam's Sons. 1883.

Smith, Donald Eugene (editor), "Diary of Gaspar de Portolá during the California expedition of 1769-1770," *Publications of the Academy of Pacific Coast History*, vol. I. Berkeley, California: University of California. 1909.

State of California Report of Department of Public Works. Biennial. Sacramento: California State Printing Office.

Soulé, Frank, Gihon, John H., M.D., and Nisbet, James, *The annals of San Francisco: containing a summary of the history of the first discovery, settlement, progress, and present condition of California, and a complete history of all its important events connected with its great city* . . . New York: D. Appleton & Co. 1855.

Sparks, Edwin Erle, *The expansion of the American people, social and territorial*. Chicago and New York: Scott, Foresman and Co. 1900.

Simpson, James Hervey, *Report of explorations across the great basin of the territory of Utah for a direct wagon-route from Camp Floyd to Genoa, in Carson Valley, in 1859*. Washington: Government Printing Office. 1876.

Sutter, John Augustus, *Personal recollections*. MS. (Bancroft Library.)

Taylor, Bayard, *Eldorado, or adventures in the path of empire: comprising a voyage to California via Panama . . .* New York: George P. Putnam. 1850. 2 volumes.

Teggart, Frederick J. (editor), "The Anza expedition of 1775-1776. Diary of Pedro Font," *Publications of the Academy of Pacific Coast History*, vol. III, no. I. Berkeley, California: University of California. 1913.

Thwaites, Reuben Gold (editor), *Early western travels, 1748-1846: a series of annotated reprints of some of the best and rarest contemporary volumes of travel . . .* Cleveland, Ohio: The Arthur H. Clark Co. 1904-07.

Transportation. The Monthly Magazine of the Transportation Industry. Files. Chicago: The Associated Publishing Co., Inc.

Trottman, Nelson, *History of the Union Pacific*. New York: Ronald Press. 1923.

Turner, Frederick Jackson, *Rise of the new west, 1819-1829*. (American Nation series, vol. XIV.) New York: Harper and Bros. 1906.

Turner, Frederick Jackson, *The frontier in American history*. New York: Henry Holt and Company. 1920.

Twain, Mark (Clemens, Samuel Langhorne), *Roughing it*. New York: Harper and Bros. 1903.

United States Bureau of the Census . . . *Express business in the United States, 1907*. Washington: Government Printing Office. 1908.

Vallejo, Guadalupe, "Ranch and mission days in Alta California," *Century Magazine*, vol. XLI. 1890.

Visscher, W. L., *The pony express, or blazing the westward way*. Chicago: Rand McNally & Co. 1908.

Warman, Cy, *The story of the railroad*. New York: D. Appleton Company. 1900.

Western Flying Magazine. Files. Los Angeles: The Occidental Publishing Company.

White, Henry Kirke, *History of the Union Pacific Railway*. Chicago: University of Chicago Press. 1895.

Wilkes, Charles, *Narrative of the United States exploring expedition during the years 1838, 1839, 1840, 1841, 1842*. . . . Philadelphia: Lea and Blanchard. 1845.

Willard, Charles Dwight, *The history of Los Angeles city*. Los Angeles: Kingsley-Barnes & Neuner Co. Publishers. 1901.

SELECT BIBLIOGRAPHY—PART II

By Sea to California

Academy of Pacific Coast History. Publications. Berkeley, California. 1909-1919, 4 volumes.

Baldwin, R. S. Jr., "Tarrying in Nicaragua." *Century Magazine*, XX: 911-931, October, 1891.

Bancroft, Hubert Howe, *History of California.* 7 volumes. San Francisco: The History Company. 1886-1890.

Bates, Mrs. D. B., *Incidents on land and water:* or *Four years on the Pacific Coast.* Boston: James French & Company. 1857.

Beechey, Frederick W., *Narrative of a voyage to the Pacific and Bering Strait.* London: H. Colburn and R. Bentley. 1831.

Board of Harbor Commissioners of the City of Los Angeles. Annual Report. 1927.

Borthwick, J. D., *Three years in California.* Edinburgh: William Blackwood and Sons. 1857.

Browne, J. Ross, *Crusoe's Island, a ramble in the footsteps of Alexander Selkirk with sketches of adventure in California and Washoe.* New York: Harper and Brothers. 1871.

Capron, Elisha S., *History of California.* Boston: J. P. Jewett. 1854.

Careri, Giovanni Francisco Gemelli, *A voyage round the world, 1697-98.* Translated from original Italian in Awnsham and Churchill (ed.). *A collection of voyages and travels.* London: 1752.

Chapman, Charles E., *A history of California: The Spanish period.* New York: The Macmillan Company. 1921.

Chapman, Charles E., *The founding of Spanish California, 1687-1783.* New York: The Macmillan Company. 1916.

Chatterton, E. Keble, *Sailing ships: the story of their development from the earliest time to the present day.* London: Sidgwick and Jackson, Ltd. 1909.

Clark, Arthur Hamilton, *The clipper ship era, 1843-1869.* New York: G. P. Putnam's Sons. 1910.

Cleland, Robert Glass, *A history of California: The American period.* New York: The Macmillan Company. 1922.

Coffin, George, *A pioneer voyage to California, etc.* Chicago: Privately printed. 1908.

Colton, Walter, *Three years in California.* New York and Cincinnati: Cleaves, McDonald & Co. 1850.

Cook, James, *A voyage towards the South Pacific and round the world performed in his majesty's ships, Resolution and Adventure, in the years 1772, 1773, 1774, 1775.* London: 1784.

Cook, James, and King, James, *A voyage to the Pacific Ocean.* London: H. Hughs. 1785.

Cooke, Edward. *A voyage to the South Sea and round the world.* London: 1712.

Corney, Peter. *Voyages in the northern Pacific.* Honolulu: T. G. Thrum. 1896.

Crespi, Fray Juan, *Missionary explorer on the Pacific Coast, 1769-1774.* Edited by Herbert Eugene Bolton. (Historical Memoirs of California.) Berkeley: University of California Press. 1927.

Dana, Richard Henry. *Two years before the mast.* New York: Harper & Brothers. 1841.

Davis, William Heath. *Sixty years in California.* San Francisco: A. J. Leary. 1889.

Dellenbaugh, Frederick S., *The romance of the Colorado river.* New York and London: G. P. Putnam's Sons. 1906.

Dollar, Robert. *Diary* and *Memoirs of Robert Dollar*. San Francisco: W. Van Cott & Company. 1912 (and later). 4 volumes.

Eldredge, Zoeth S., *The beginnings of San Francisco from the expedition of Anza, 1774, to the city charter of April 15, 1850*. 2 volumes. San Francisco: Z. S. Eldredge. 1912.

Eldredge, Zoeth S. (ed.) *History of California*. 5 volumes. New York: The Century History Co. 1915.

Farwell, Willard B. "Cape Horn and co-operative mining in '49." *Century Magazine*. XX: 579-94. August, 1891.

Forbes, Alexander. *California: a history of Upper and Lower California*. London: Smith, Elder & Co. 1839.

Foster, G. G. (ed.). *The gold regions of California*. New York: Dewitt and Davenport. 1848.

Guinn, J. M., *Los Angeles and environs*. Los Angeles: Historical Record Company. 1915.

Hawes, Charles B., *Whaling*. New York: Doubleday, Page & Co. 1924.

Historical Society of Southern California. Annual publications. 13 volumes. Los Angeles, California: 1886-1927.

Hittell, John S., *A history of the city of San Francisco and incidentally of the state of California*. San Francisco: A. L. Bancroft & Co. 1878.

Hittell, Theodore H., *History of California*. 4 volumes. San Francisco: N. J. Stone & Co. 1885-1897.

Howe, Octavius T., *Argonauts of '49; history and adventures of the emigrant companies from Massachusetts, 1849-50*. Cambridge: Harvard University Press. 1923.

Howe, Octavius T., and Matthews, F. C., *American clipper ships, 1833-1858*. 2 volumes. Salem: Marine Research Society. 1927.

Johnson, Emory R., et al. *History of domestic and foreign commerce of the United States.* Washington: Carnegie Institution of Washington. 1915.

Johnson, Theodore T., *Sights in the gold region and scenes by the way.* New York: Baker & Scribner. 1849.

Journals. Manuscript journals and letters in the Henry E. Huntington Library and Art Gallery, San Marino, California. Especially valuable are those by William H. De Costa, John Hovey, George F. Kent, Lewis Sanger, Henry Sturdivant, H. O. Comstock.

Kotzebue, Otto von, *Voyage of discovery into the South Sea and Bering Straits.* 3 volumes. Translated from German. London: Longman, Hurst, Rees, Orme and Brown. 1821.

Kroeber, A. L., *Handbook of the Indians of California.* Washington: Government Printing Office. 1925.

Lamson, Joseph, *Round Cape Horn in 1852.* Bangor: Press of O. F. and W. H. Knowles. 1878.

[Letts, J. M.] *A pictorial review of California including a description of the Panama and Nicaragua routes by a returned Californian.* New York: Henry Bill. 1853.

Lyman, Albert, *Journal of a voyage to California.* Hartford: E. T. Pease. 1852.

Marvin, Winthrop L., *The American merchant marine.* New York: Charles Scribner's Sons. 1910.

Morison, Samuel E., *The maritime history of Massachusetts 1783-1860.* Boston and New York: Houghton, Mifflin Company. 1921.

Morphy, Edward, *The port of San Francisco.* Sacramento: California State Printing Office. 1923.

Otis, Fessenden N., *Isthmus of Panama.* N. Y.: Harper and Brothers. 1867.

Pacific Marine Review. San Francisco: 1904 . . . .

Paine, Ralph D., *The old merchant marine.* (Vol. 36, Chronicles of America series.) New Haven: Yale University Press. 1921.

Palmer, J. W. "Pioneer days in San Francisco." *Century Magazine.* XXI: 541-560, February, 1892.

Pratt, Julius H. "To California by Panama in '49." *Century Magazine.* XIX, 901-917, April, 1891.

Preble, George Henry, *A chronological history of the origin and development of steam navigation.* Philadelphia: L. R. Hamersby & Co. 1895.

Revere, Joseph Warren, *A tour of duty in California.* New York: C. S. Francis & Company. 1849.

Robinson, Alfred, *Life in California.* New York: Wiley and Putnam. 1846.

Robinson, Fayette, *California and its gold region.* New York, Stringer and Townsend. 1849.

Rogers, Woodes, *A cruising voyage round the world.* London: 1726.

Ryan, William Redmond, *Personal adventures in upper and lower California in 1848-9; with the author's experiences at the mines.* 2 volumes. London: W. Shoberl. 1850.

Salpointe, Archbishop John B., *Soldiers of the Cross.* Banning. St. Boniface's Industrial School, 1898.

Sheldon, G. W. "The old packet and clipper service." *Harper's Magazine,* 68: 217-237, January, 1884.

Society of California Pioneers, The first steamship pioneers. Issued by a committee of the association. San Francisco: H. S. Crocker & Co., Printers. 1874.

Soulé, Frank; Gihon, John; and Nisbet, James, *The annals of San Francisco.* New York, San Francisco, London: D. Appleton & Co., 1855.

Taylor, Bayard, *Eldorado, or adventures in the path of empire: comprising a voyage to California via Panama.* 2 volumes. New York: George F. Putnam. 1850.

Thomas, L. J., *The first world flight.* Boston: Houghton Mifflin Co. 1925.

Thomes, William H., *On land and sea; or California in the years 1843, 1844, and 1845.* Boston: De Wolfe, Fiske & Company. 1884.

U. S. Department of the Treasury. *Annual report of the Commissioner of Navigation.* 1884-1903.

U. S. Department of Commerce. *Annual report of the Commissioner of Navigation.* 1903. . .

U. S. Department of Commerce. *Bureau of foreign and domestic commerce. Foreign commerce and navigation,* 1821-1903.

U. S. Department of the Treasury. *Report of the Secretary of the Treasury, 1848.*

Wilkes, Charles, *Narrative of the United States exploring expedition during the years 1838, 1839, 1840, 1841, 1842.* Philadelphia: Lea and Blanchard. 1844. 5 volumes and an atlas.

Young, John P., *San Francisco, A history of the Pacific Coast metropolis,* 2 volumes. San Francisco, S. J. Clarke Publishing Co. 1912.

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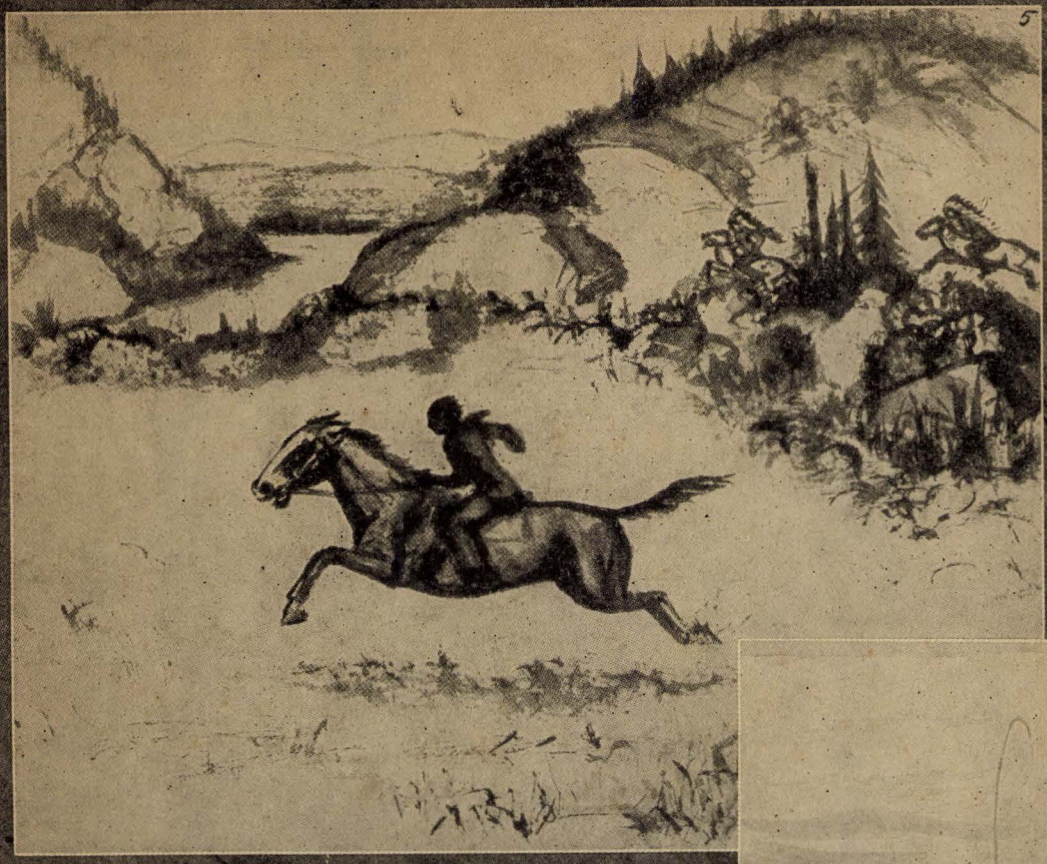


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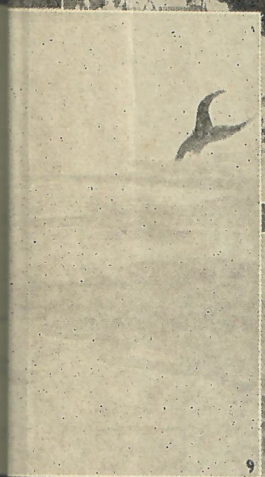
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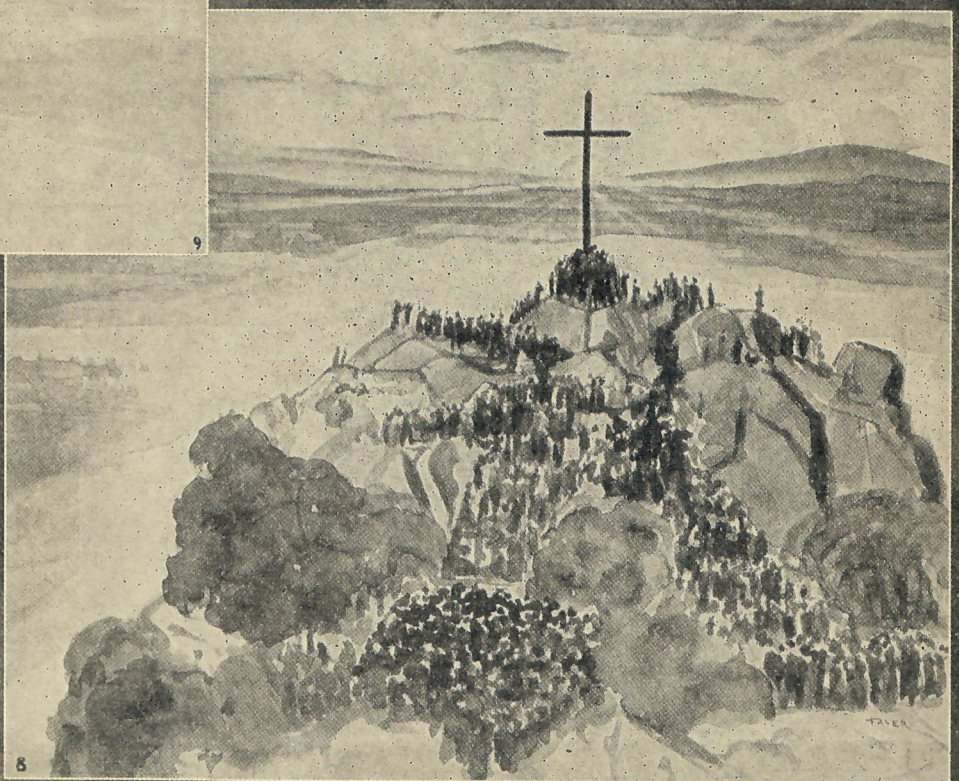
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